

Service Manual

Dolby NR-Equipped
Stereo Double Cassette Deck

Cassette Deck
RS-TR575



AR-1 MECHANISM SERIES

Colour

(K) ... Black Type

Area

Suffix for Model No.	Area	Colour
(P)	U.S.A.	(K)
(PC)	Canada.	
(E)	Europe.	
(EB)	Great Britain.	
(EG)	Germany and Italy.	
(GC)	Asia, Latin America, Middle Near East and Africa.	
(GN)	Oceania.	

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SPECIFICATIONS\ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ
ABOUT THE ATC FUNCTION\ОБ АВТОМАТИЧЕСКОЙ КАЛИБРОВКЕ ЛЕНТ
SELF-DIAGNOSTIC\САМОДИАГНОСТИКА
DISASSEMBLY INSTRUCTIONS\ПОРЯДОК РАЗБОРКИ
HOW TO CHECK THE MAIN P.C.B.\КАК ПРОВЕРЯТЬ ОСНОВНУЮ ПЕЧАТНУЮ ПЛАТУ
INSTALLATION OF THE SUB CHASSIS ASS'Y\УСТАНОВКА СУБМОДУЛЯ ШАССИ
INSTALLATION OF THE CASSETTE HOLDER ASS'Y\УСТАНОВКА
КАССЕТОПРИЕМНИКА
REPLACEMENT OF THE FOOT\ЗАМЕНА НОЖКИ КОРПУСА
REPLACEMENT OF MAIN PARTS\ЗАМЕНА ОСНОВНЫХ ЧАСТЕЙ
WRITING TO EEPROM\ЗАПИСЬ В ПЗУ
MEASUREMENTS AND ADJUSTMENTS\ИЗМЕРЕНИЯ И РЕГУЛИРОВКИ
TERMINAL FUNCTION OF IC\ФУНКЦИОНАЛЬНОЕ НАЗНАЧЕНИЕ ВЫВОДОВ
МИКРОКОНТРОЛЛЕРА
TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES\ЦОКОЛЕВКА
ИНТЕГРАЛЬНЫХ СХЕМ, ТРАНЗИСТОРОВ И ДИОДОВ
BLOCK DIAGRAM\БЛОК-СХЕМА
SCHEMATIC DIAGRAMS\ПРИНЦИПИАЛЬНЫЕ СХЕМЫ
WIRING CONNECTION DIAGRAM\СХЕМА СОЕДИНЕНИЙ
REPLACEMENT PARTS LIST\СПИСОК ЗАПАСНЫХ ЧАСТЕЙ
CABINET PARTS LOCATION\РАСПОЛОЖЕНИЕ ЧАСТЕЙ КОРПУСА
MECHANISM PARTS LOCATION\РАСПОЛОЖЕНИЕ ЧАСТЕЙ МЕХАНИЗМА
RESISTORS AND CAPACITORS\РЕЗИСТОРЫ И КОНДЕНСАТОРЫ
PACKAGING\УПАКОВКА

Technics

SPECIFICATIONS

■ CASSETTE DECK SECTION

Deck system	Stereo cassette deck
Track system	4-track, 2-channel
Recording system	AC bias
Bias frequency	80kHz
Erasing system	AC erase
Heads	DECK 1 Recording/Playback head (Permalloy) × 1 Erasing head (Double-gap ferrite) × 1
	DECK 2 Recording/Playback head (Permalloy) × 1 Erasing head (Double-gap ferrite) × 1
Motors	DECK 1 Capstan drive (DC servo motor) × 1 Reel table drive (DC motor) × 1
	DECK 2 Capstan drive (DC servo motor) × 1 Reel table drive (DC motor) × 1
Tape speed	4.8cm/sec. (1-7/8 ips)
Wow and flutter	
For (P, PC) areas	0.1% (WRMS)
For others	0.07% (WRMS) ±0.2% (DIN)
Fast forward and rewind times	Approx. 50 seconds with C-60 cassette tape
Frequency response (Dolby NR off)	
NORMAL	40Hz—15kHz ±3dB
For (P, PC) areas	20Hz—17kHz
For others	20Hz—16kHz (DIN)
CrO₂	40Hz—15kHz ±3dB
For (P, PC) areas	20Hz—17kHz
For others	20Hz—16kHz (DIN)
METAL	40Hz—16kHz ±3dB
For (P, PC) areas	20Hz—18kHz
For others	20Hz—17kHz (DIN)

S/N (Signal level = max recording level, CrO₂ type tape)

NR off	56dB (A weighted)
Dolby B NR on	66dB (A weighted)
Dolby C NR on	74dB (A weighted)
Input sensitivity and impedance	
REC (IN)	100mV/47kΩ
Output voltage and impedance	
PLAY (OUT)	500mV/500Ω
HEADPHONES	
For (E, EB, EG, GC, GN) areas	30mV/(8Ω) (Load impedance 8Ω—600Ω)

■ GENERAL

Power consumption	28W
Power supply	
For (P, PC) areas	AC 60Hz, 120V
For (GC) area	AC 50/60Hz, 110V/127V/220V/240V
For others	AC 50/60Hz, 230V—240V
Dimensions (W × H × D)	430 × 136 × 285mm (16-15/16" × 5-5/16" × 11-7/32")
Weight	4.4kg (9.7lb.)

Note:

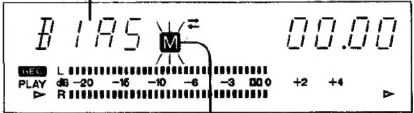
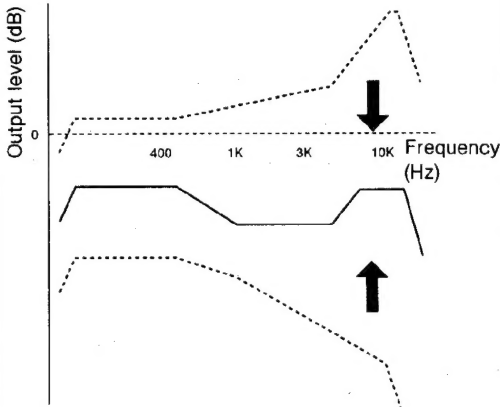
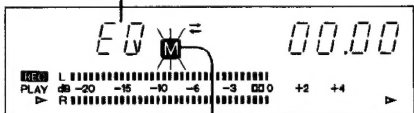
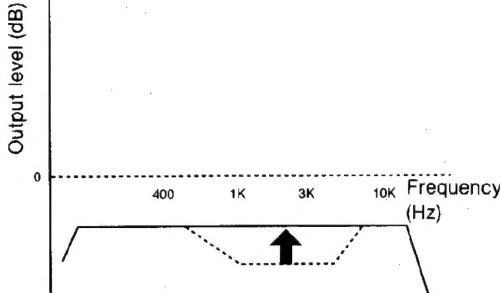
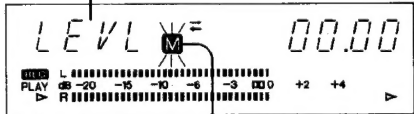
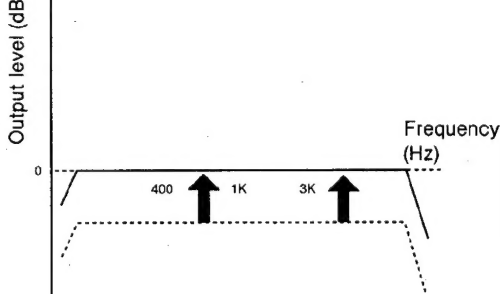
Design and specifications are subject to change without notice.
Weight and dimensions are approximate.

■ ABOUT THE ATC FUNCTION

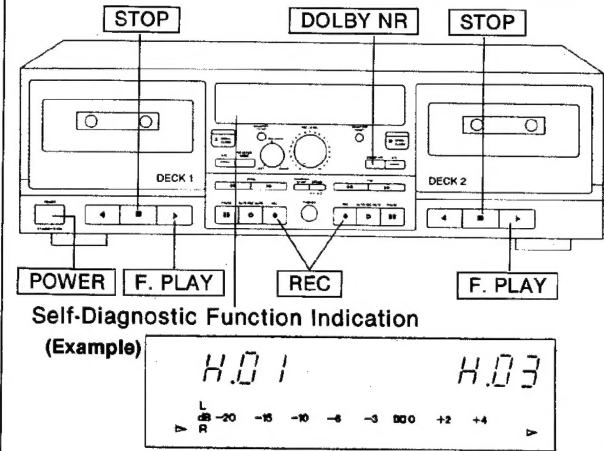
The ATC (auto tape calibration) function records a test signal in order to automatically set the bias, equalizer and recording/playback level to the optimum recording conditions in accordance with the characteristics of the tape being used.

The table below shows the conditions of the display and the operation of the unit while the ATC settings are being made.

Example: Performing ATC on Deck 1

	Display	Unit operation
① Bias adjustment	<p>"BIAS" is displayed.</p>  <p>Flashes</p>	<p>The bias is adjusted so that the output level is the same at 400 Hz and at 10 kHz.</p> 
② Equalizer adjustment	<p>"EQ" is displayed.</p>  <p>Flashes</p>	 <p>The equalizer is adjusted so that the output level is the same at 400 Hz and at 3 kHz.</p>
③ Level adjustment	<p>"LEVL" is displayed.</p>  <p>Flashes</p>	 <p>The tape sensitivity is compensated so that the recording input level and the playback output level are the same.</p>

SELF-DIAGNOSTIC

Indicating Procedure	Indicating Position
<p>To indicate Self-Diagnostic Function</p> <ol style="list-style-type: none"> 1. Check both Deck 1 and 2 are empty (no cassette tape), then turn on the power. 2. Press and hold the DOLBY (NR) button (for more than 3 seconds), and also press the Deck 2 STOP (■) button for about 2 seconds until the level meter changes from constantly lit to blinking. 3. Insert a normal blank cassette tape, either A or B side of which has the erase preventing piece folded. Then close the cassette holder. 4. Press the Deck 2 FWD. PLAY (▶) button and play the tape for more than 1 second, then press the DECK 2 STOP (■) button. 5. Insert a normal blank cassette tape for DECK 2, both A and B sides of which have the erase preventing pieces respectively, and close the cassette holder. (NOTE: Rewind the tape for 1 or 2 minutes before use.) 6. Press the REC (●) button. This automatically makes Deck 2 perform the following operations. <p>Record an eight second portion with no sound. → Record a 20 second portion off 400Hz test signal.</p> <p style="text-align: center;">↓</p> <p style="text-align: center;">TPS-REVIEW search mode ← Stop the unit</p> <p>(NOTE: The tape has to be taken up by playback for about 1 minute.)</p> <ol style="list-style-type: none"> 7. Repeat the procedure above for Deck 1. 8. To check the self-diagnostic results, press the Deck 1 STOP (■) button for Deck 1, and press the Deck 2 STOP (■) button for Deck 2. These results are indicated in the respective displays. 9. If there is no fault, the counter display remains unchanged when the STOP (■) button is pressed. <p>To resume Ordinary Indication</p> <p>To return the display to normal mode, switch the power off and then back on again. To have the indication appear again, take the above-stated steps 1, 2 and 8.</p> <p>NOTE: The self-diagnostic results are stored in memory. To clear this memory, press and hold the Deck 2 STOP (■) button for at least 6 seconds until "CL" appears in the Deck 2 FL display. Pressing the Deck 2 STOP (■) button clears the Deck 1 memory at the same time. Be sure to clear the memory after the repair.</p>	 <p>Self-Diagnostic Function Indication (Example)</p>

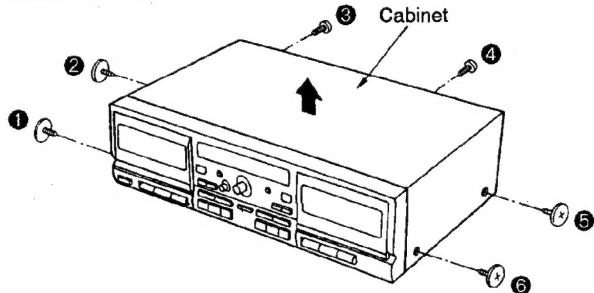
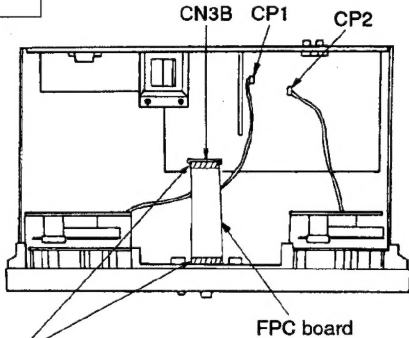
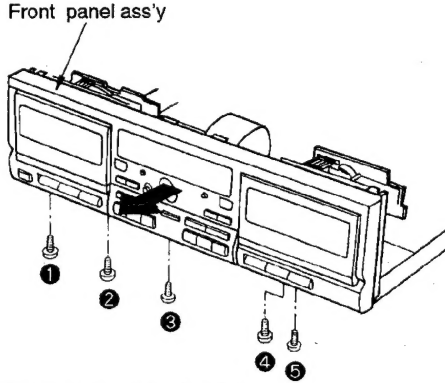
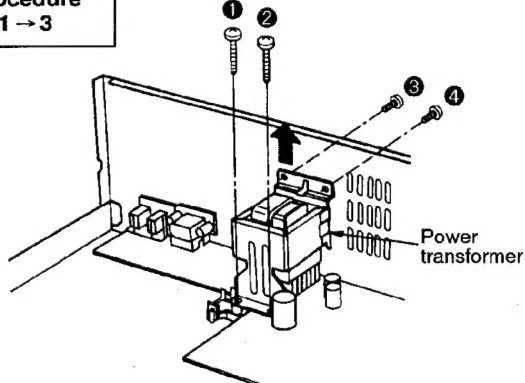
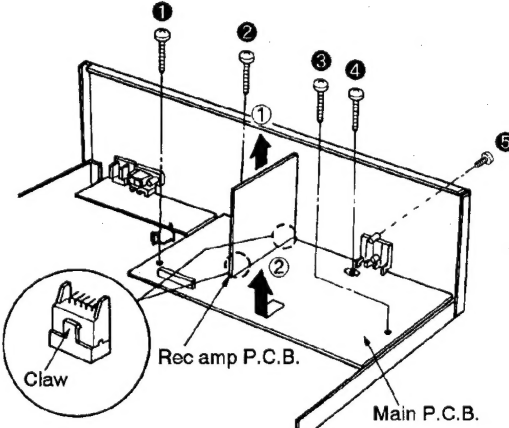
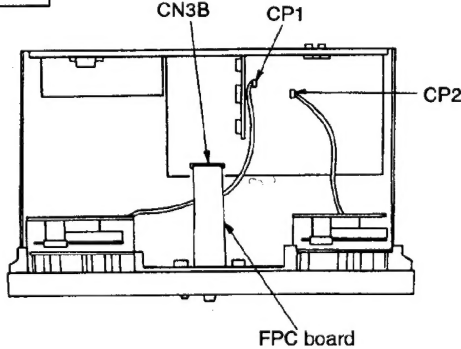
Indication Text

Symbol	Trouble	Remedy
H01	Irregular action of cassette mechanism. (Example) Pressing the FWD PLAY button results in REW PLAY action.	The cassette mechanism mode switch (S971, S971A) and plunger are defective. (Check and replace them.)
H02	No recording can be made, or the unit is placed in the recording mode though the erase preventing piece has been broken.	The erase preventing switch (S974, S974A, S975, S975A) contacts improperly, or there is a shortcircuit. (Check and replace the switch.)
H03	Pressing the PLAY (▶) button fails to play the tape. Pressing the PLAY (▶) button causes the motor to rotate though no cassette tape is in.	The cassette half detect switch (S972, S972A) contacts improperly, or there is a shortcircuit. (Check and replace the switch.)
H04	The cassette holder will not open or close when the OPEN/CLOSE (▲) button is pressed.	The cassette holder open/close detect switch (S803, S804, S853, S854) contacts improperly, or there is a shortcircuit. (Check and replace the switch.)
H05	Pressing the OPEN/CLOSE (▲) button causes the cassette holder to open after it has closed, and vice versa.	
H06	No treble is produced when a normal tape is played or recorded.	The auto tape select (CrO ₂) switch (S973, S973A) contacts improperly, or there is a shortcircuit. (Check and replace the switch.)
H07	Excessive treble is produced when a CrO ₂ /Metal tape is played, or the recorded treble is distorted and at a low level.	The automatic tape select (Metal) switch (S976, S976A) contacts improperly, or there is a shortcircuit. (Check and replace the switch.)
F01	When the PLAY (▶) button is pressed, the tape runs a little and stops soon.	The hall IC (IC971, 971A, 972, 972A) is defective and, as the result, reel-pulse is out of order. (Check and replace the IC.)
F02	TPS does not operate.	The PLAYBACK AMP IC (IC2) is defective. (Check and replace the IC.)

DISASSEMBLY INSTRUCTIONS

"ATTENTION SERVICER"

Some chassis components may have sharp edges. Be careful when disassembling and servicing.

Ref.No. 1	Removal of the cabinet	Ref.No. 2	Removal of the front panel ass'y
Procedure 1	 <p>1. Remove the 6 screws(①~⑥). 2. Remove the cabinet in the direction of arrow.</p>	 <p>※ When connecting the FPC board to the connectors, connect the FPC board so that the both blue ends of FPC board are faced upwards as shown above.</p> <p>1. Remove the 2 connectors(CP1, CP2). 2. Pull out the FPC board from connector(CN3B).</p>	
Ref.No. 3	Removal of the power transformer	 <p>3. Remove the 5 screws(①~⑤). 4. Remove the front panel ass'y in the direction of arrow.</p>	
Procedure 1→3	 <p>1. Remove the 4 screws(①~④). 2. Pull the front power transformer in the direction of arrow.</p>		
Ref.No. 4	Removal of the rec amp P.C.B. and main P.C.B.	 <p>3. Release the 2 claws, and then remove the rec amp P.C.B. in the direction of arrow ①. 4. Remove the 5 screws(①~⑤). 5. Remove the main P.C.B. in the direction of arrow ②.</p>	
Procedure 1→3→4	 <p>1. Remove the 2 connectors(CP1, CP2). 2. Pull out the FPC board from connector(CN3B).</p>		

Ref.No. 5	Removal of the cassette mechanism units(DECK 1, DECK 2)	<div data-bbox="236 376 783 763"> <p>Drive lever</p> </div> <div data-bbox="815 353 1437 719"> </div> <div data-bbox="156 775 770 831"> <p>1. Push the drive lever in the direction of arrow ①, and open the cassette holder ass'y.</p> </div> <div data-bbox="815 775 1445 831"> <p>2. Lift the cassette lid in the direction of arrow ②, and remove it in the direction of arrow ③.</p> </div> <div data-bbox="172 882 715 1263"> </div> <div data-bbox="156 1357 496 1391"> <p>5. Remove the 8 screws(①~⑧).</p> </div> <div data-bbox="783 831 1445 1301"> </div> <div data-bbox="815 1301 1430 1391"> <p>3. Push the drive rack in the direction of arrow ④, and close the cassette holder ass'y. 4. Pull out the FPC board from connectors(CN1A, CN2A).</p> </div>	
Ref.No. 6	Removal of the mechanism angle	Ref.No. 7	Removal of the FL P.C.B.
Procedure 1→2→5→6		Procedure 1→2→5→6 →7	
<div data-bbox="220 1592 699 1939"> <p>Mechanism angle</p> </div> <div data-bbox="156 1995 491 2029"> <p>• Remove the 4 screws(①~④).</p> </div>		<div data-bbox="842 1514 1401 1939"> </div> <div data-bbox="815 1939 1294 2029"> <p>1. Pull out the rec level knob and balance knob. 2. Remove the 4 screws(①~④). 3. Release the 4 claws.</p> </div>	

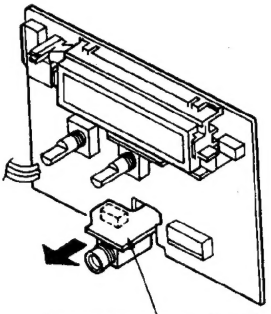
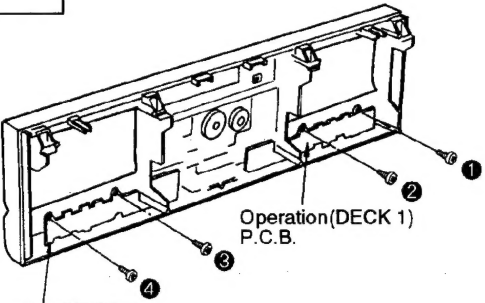
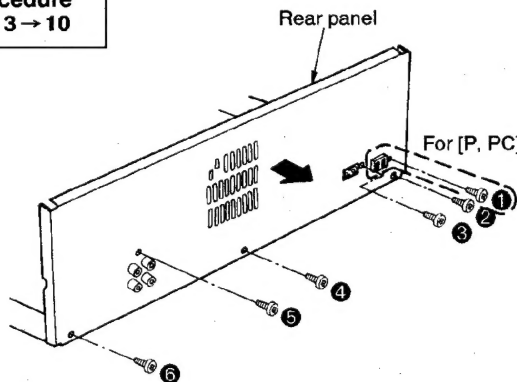
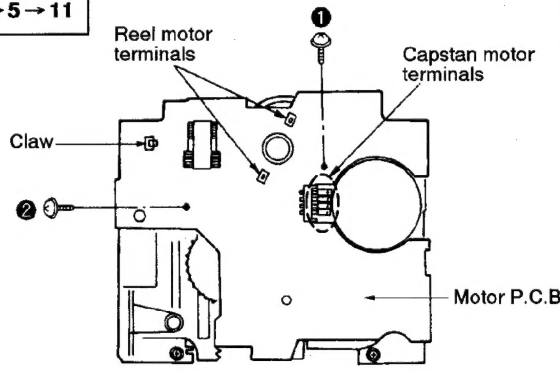
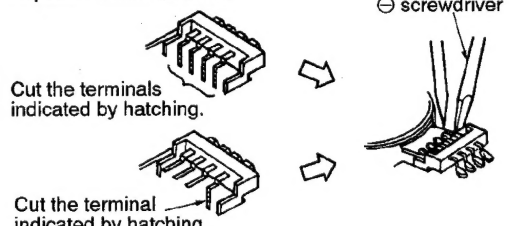
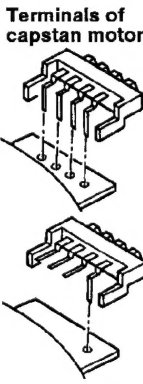
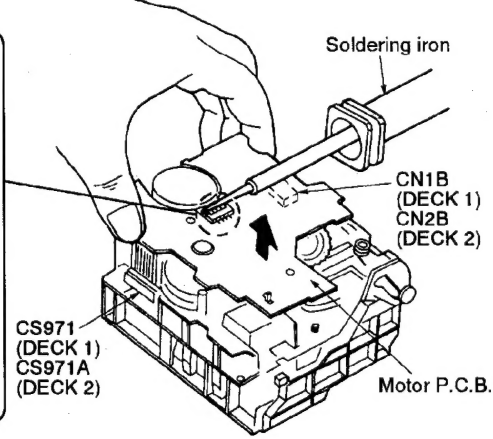
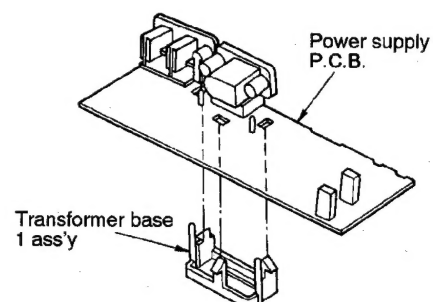
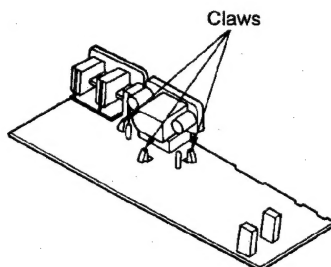
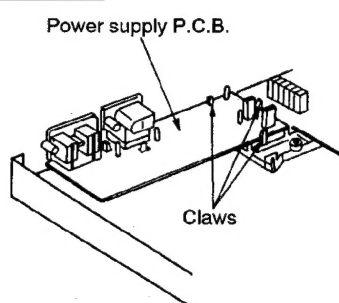
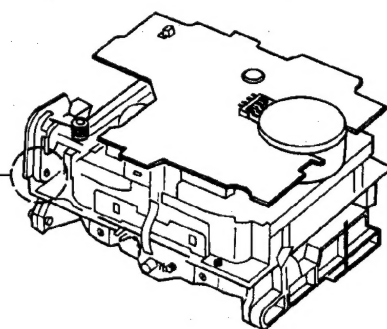
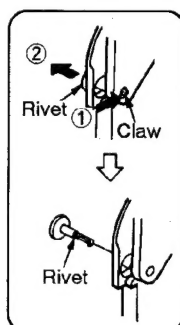
Ref.No. 8	Removal of the headphones jack P.C.B. ※ For [E, EB, EG, GC, GN] areas.	Ref.No. 9	Removal of the operation(DECK 1) P.C.B. and operation(DECK 2) P.C.B.
Procedure 1 → 2 → 5 → 6 → 7 → 8	 <p>Headphones jack P.C.B.</p> <ul style="list-style-type: none"> Remove the headphones jack P.C.B. in the direction of arrow. 	Procedure 1 → 2 → 5 → 6 → 9	 <p>Operation(DECK 1) P.C.B.</p> <p>Operation(DECK 2) P.C.B.</p> <ul style="list-style-type: none"> Remove the 4 screw(① ~ ④).
Ref.No. 10	Removal of the rear panel	Ref.No. 11	Removal of the motor P.C.B. (DECK 1, DECK 2)
Procedure 1 → 3 → 10	 <p>Rear panel</p> <p>For [P, PC] areas.</p> <ol style="list-style-type: none"> Remove the 6 screws(① ~ ⑥). For [P, PC] areas. Remove the 5 screws(② ~ ⑥). For [E, EB, EG] areas. Remove the rear panel in the direction of arrow. 	Procedure 1 → 2 → 5 → 11	 <p>Reel motor terminals</p> <p>Capstan motor terminals</p> <p>Claw</p> <p>Motor P.C.B.</p> <ol style="list-style-type: none"> Remove the 2 screws(①, ②). Unsolder the reel motor and capstan motor terminals. Remove the 1 claw and have the P.C.B. rise a little.
<p>■ The difference types of capstan motor terminal are used for the units. When assembling/reassembling, refer to the Fig. 1 and Fig. 2.</p> <p>※ Notice for mounting the motor P.C.B.</p> <ol style="list-style-type: none"> Cut the bent terminal of capstan motor with a nipper. Solder while pressing the part with a ⊖ screwdriver or an equivalent tool. <div data-bbox="191 1713 734 1993"> <p>Capstan motor terminal</p>  <p>Cut the terminals indicated by hatching.</p> <p>Cut the terminal indicated by hatching.</p> <p>⊖ screwdriver</p> </div>		<div data-bbox="766 1422 1436 1836"> <p>Terminals of capstan motor</p>   </div> <p>Fig. 1</p> <ol style="list-style-type: none"> Putting a soldering iron securely on the capstan motor terminal and raising the motor P.C.B. in the direction of arrow, unsolder connected part. <p>Note) When removing the motor P.C.B., pull out the P.C.B. severely because the connectors(CN1B, CN2B, CS971, CS971A) are connected.</p>	

Fig. 2

Ref.No.
12**Removal of the power supply P.C.B.**Procedure
1 → 3 → 10 → 12

1. Release the 3 claws, and then remove the power supply P.C.B.

2. Release the 3 claws, and then remove the transformer base 1 ass'y.

Ref.No.
13**Removal of the cassette holder ass'y (DECK 1, DECK 2)**Procedure
1 → 2 → 5 → 13

1. Pull out the rivet in the direction of arrow ②, while pressing the claw in the direction of arrow ①.

2. Push the drive lever in the direction of arrow ③, and open the cassette holder ass'y.

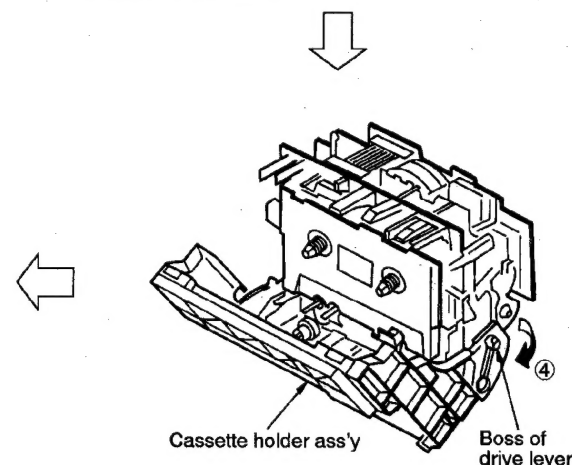
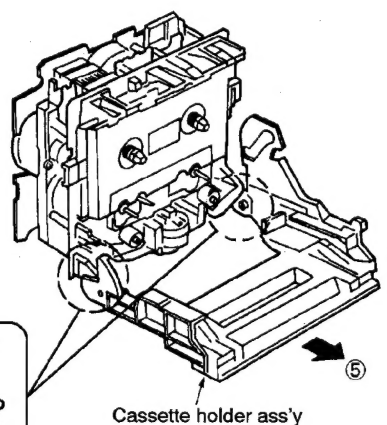
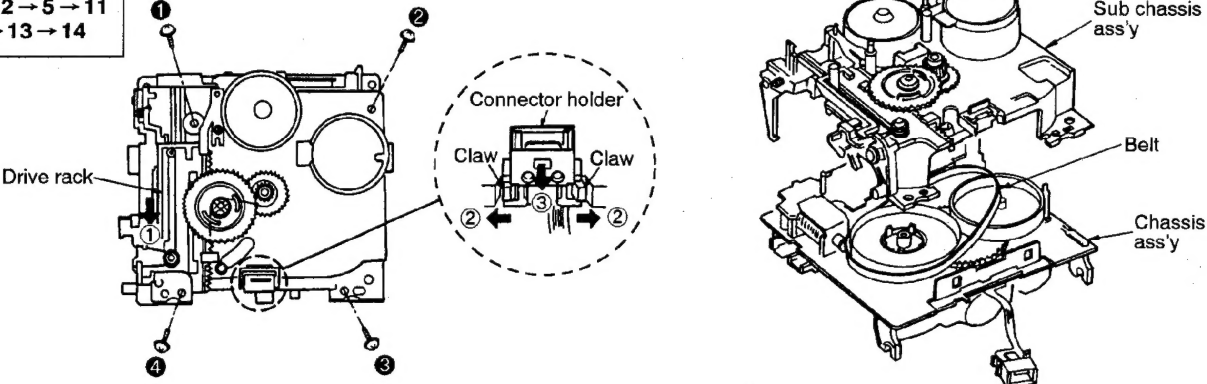
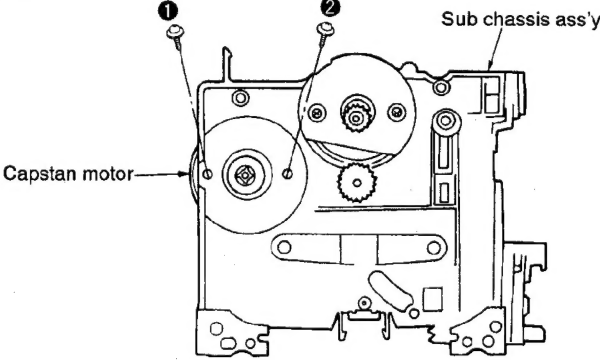


Fig. 1

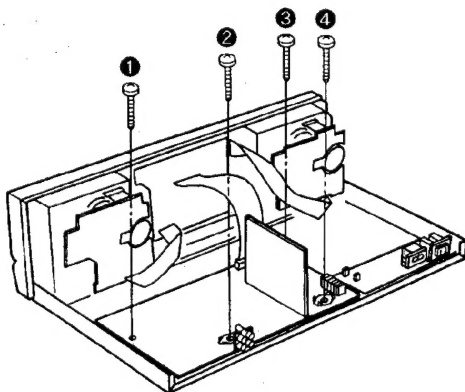
4. Open the cassette holder ass'y so that the rib of the cassette holder ass'y is located to the position as shown in Fig.1, and then pull out it in the direction of arrow ⑤.

3. Operate the cassette holder ass'y in the direction of arrow ④, and then remove it from the boss of drive lever.

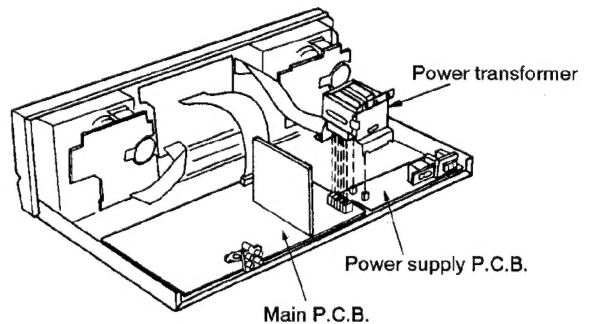
<p>Ref.No. 14</p>	<p>Removal of the sub chassis ass'y (DECK 1, DECK 2)</p>	 <p>1. Push the drive rack in the direction of arrow ①. 2. Remove the 4 screws (① ~ ④). 3. Release the 2 claws in the direction of arrow ②, and then remove the connector holder in the direction of arrow ③.</p> <p>4. Remove the sub chassis ass'y in the direction of arrow ④. 5. Remove the belt.</p> <p>Note: Care must be taken to remove the sub chassis ass'y with tweezers that the belt is not applied with grease.</p>
<p>Ref.No. 15</p>	<p>Removal of the capstan motor (DECK 1, DECK 2)</p>	
<p>Procedure 1 → 2 → 5 → 11 → 13 → 14</p>	<p>• Remove the 2 screws (①, ②).</p>	

■ HOW TO CHECK THE MAIN P.C.B.

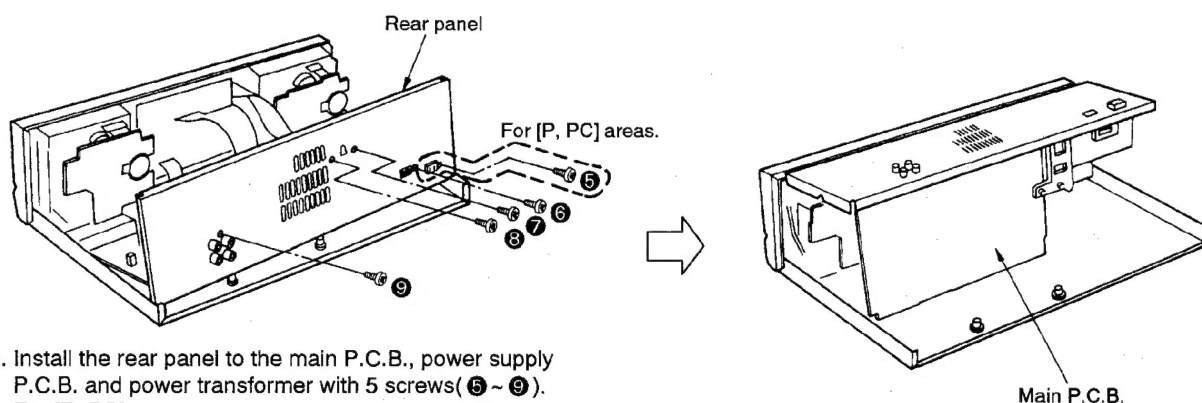
1. Remove the cabinet. (See Ref. No.1 of the disassembly instructions.)
2. Remove the power transformer. (See Ref. No.3 of the disassembly instructions.)
3. Remove the rear panel. (See Ref. No.10 of the disassembly instructions.)



4. Remove the 4 screws (① ~ ④).



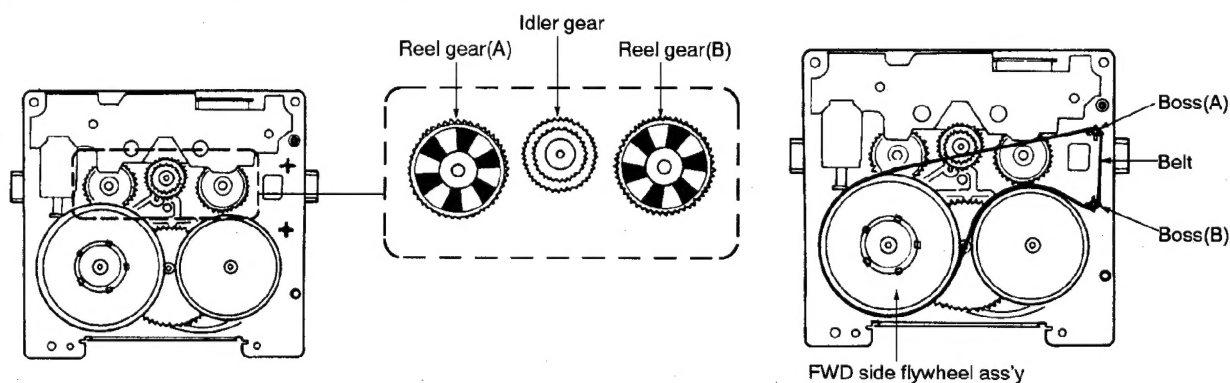
5. Install the power transformer on the main P.C.B. and power supply P.C.B.



6. Install the rear panel to the main P.C.B., power supply P.C.B. and power transformer with 5 screws (5 ~ 9). For [P, PC] areas.
7. Install the rear panel to the main P.C.B., power supply P.C.B. and power transformer with 4 screws (6 ~ 9). For [E, EB, EG] areas.

8. When checking the solder surfaces of main P.C.B. and replacing the parts, do as show.

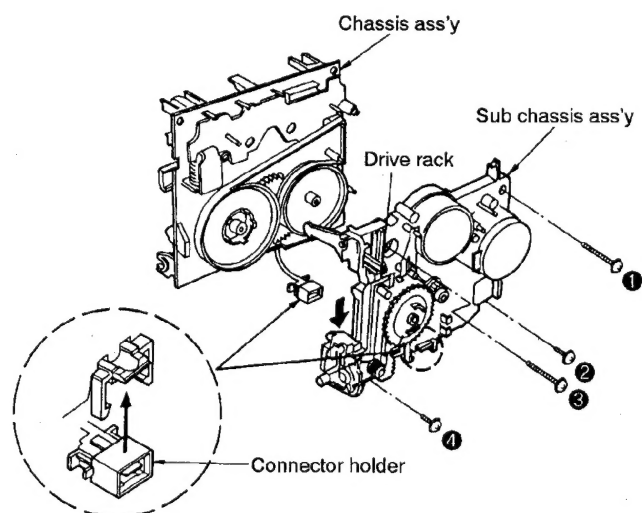
■ INSTALLATION OF THE SUB CHASSIS ASS'Y



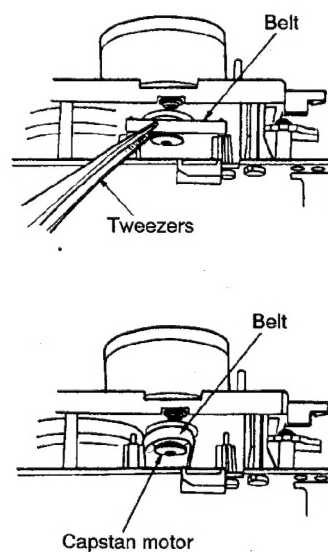
1. Position the idler gear in the between reel gear(A) and(B). (Mechanism stop position)

2. Temporarily install the belt to the FWD side flywheel ass'y, boss(A) and boss(B).

Note: Care must be taken to install the belt with tweezers that the belt is not applied with grease.

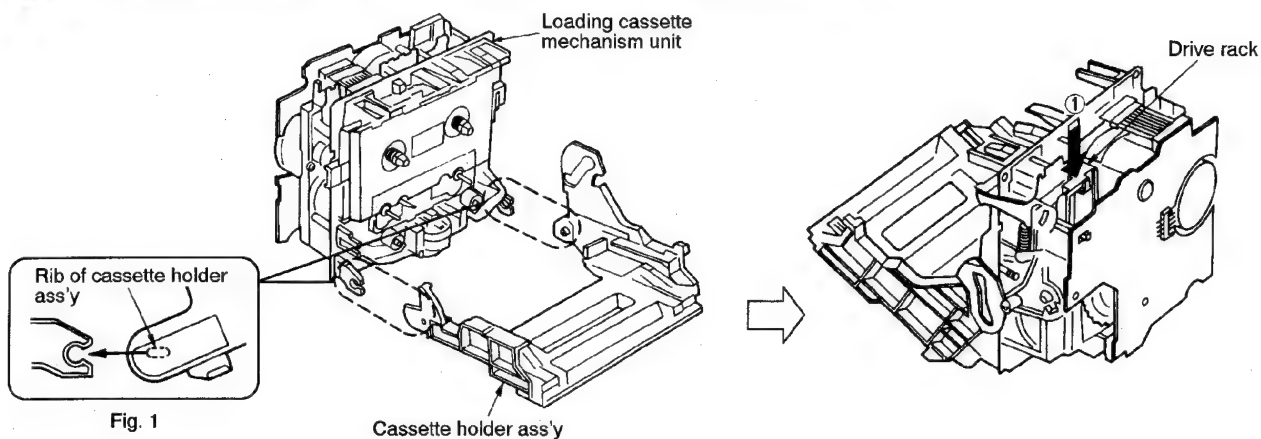


3. Push the drive rack in the direction of arrow.
4. Install the sub chassis ass'y to the chassis ass'y with 4 screws (1 ~ 4).
5. Install the connector holder.



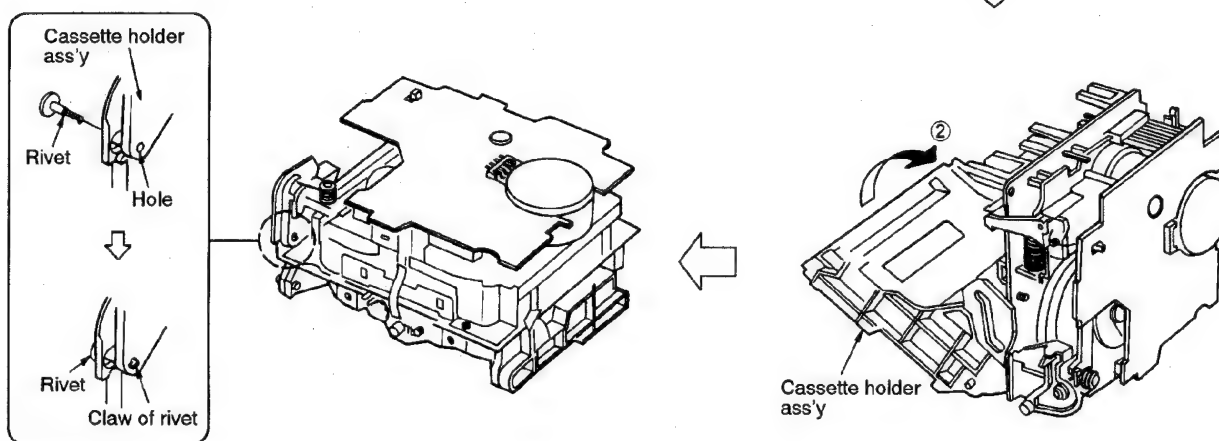
6. Install the belt to the capstan motor using the tweezers.

■ INSTALLATION OF THE CASSETTE HOLDER ASS'Y



1. Tilt the rib of cassette holder ass'y at the angle as shown in Fig.1, and then force the cassette holder ass'y to the loading cassette mechanism unit.

2. Push the drive rack in the direction of arrow ①.

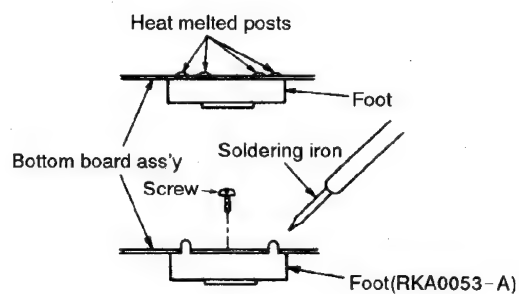


4. Insert the rivet to the hole of cassette holder ass'y.
※ Make sure the claw of rivet is positioned in the hole.

3. Close the cassette holder ass'y in the direction of arrow ②.

■ REPLACEMENT OF THE FOOT

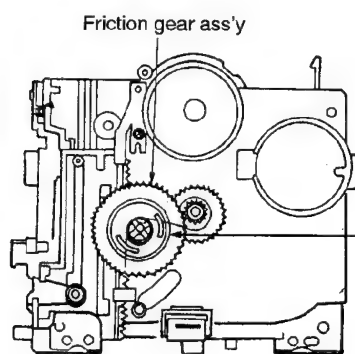
1. Remove the 4 heat melted posts on the Bottom board ass'y with a pair of nippers or similar tool.
2. To replace the foot(RKA0053-A) on the Bottom board ass'y melt the 4 posts with a soldering iron or install it with a screw (XTB3+6J).



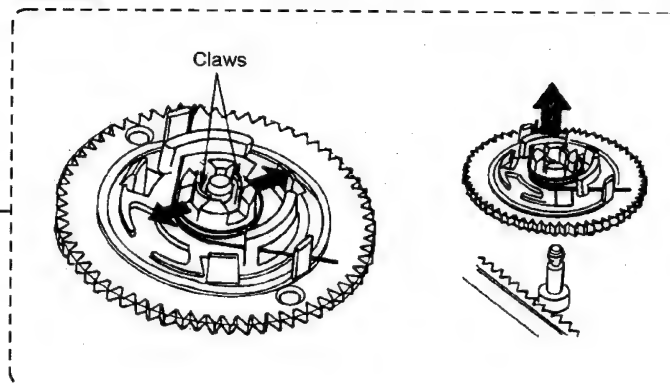
■ REPLACEMENT OF MAIN PARTS

Friction gear ass'y replacement

Step 1 Referring to "Disassembly Instructions"(Ref.No.14), remove the sub chassis ass'y.



Step 2 Widen the 2 inter-claw space and pull out the friction gear ass'y.

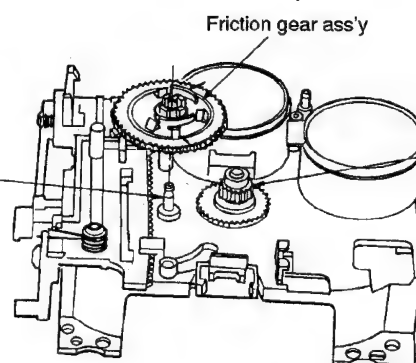


Step 3

Bring into the mesh.

Drive rack

Friction gear ass'y

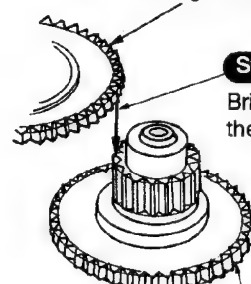


Step 4

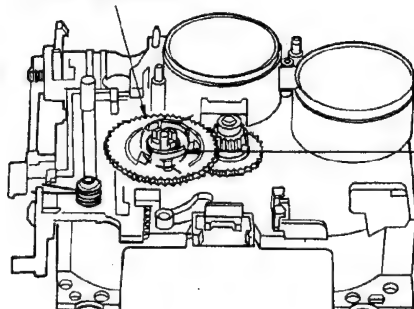
Bring into the mesh.

Friction gear ass'y

Intermediate gear



Friction gear ass'y



Step 5

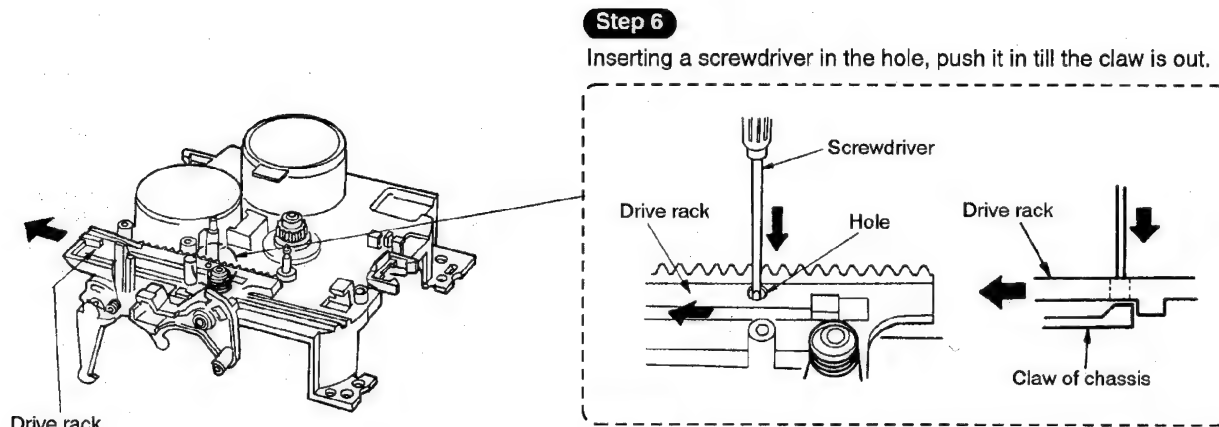
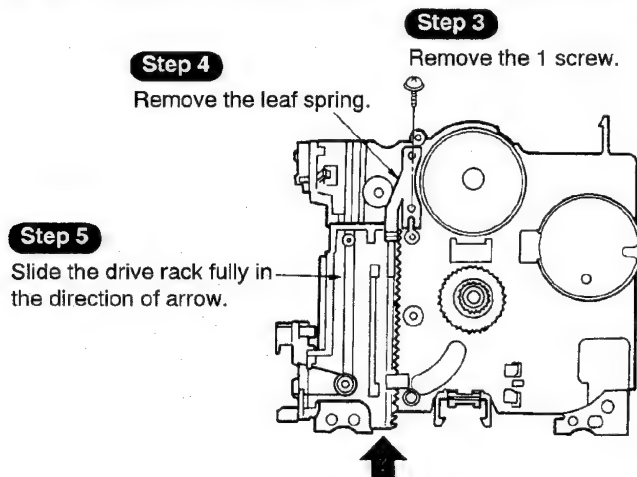
Claws should be locked in the concave section.



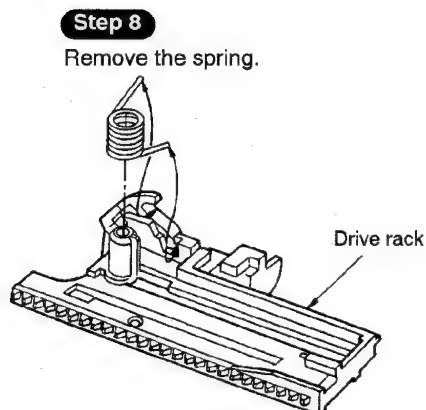
Drive rack replacement

Step 1 Referring to "Disassembly Instructions"(Ref.No.14), remove the sub chassis ass'y.

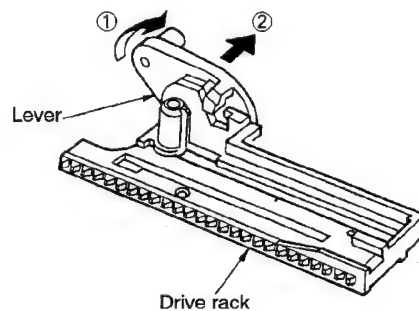
Step 2 Referring to "Friction Gear ass'y Replacement"(preceding page), remove the friction gear ass'y.



Step 7 Pushing the screwdriver in, slide the drive rack in the direction of arrow and remove it.

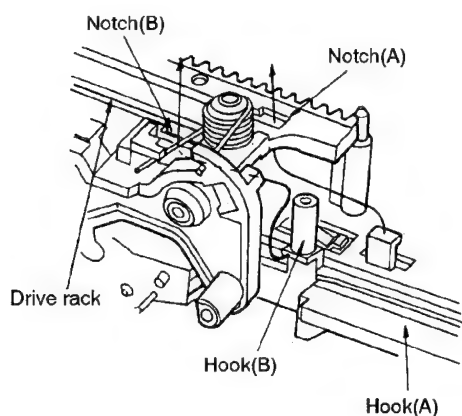


Step 9 Remove the lever by moving it as shown by arrows ①→②.

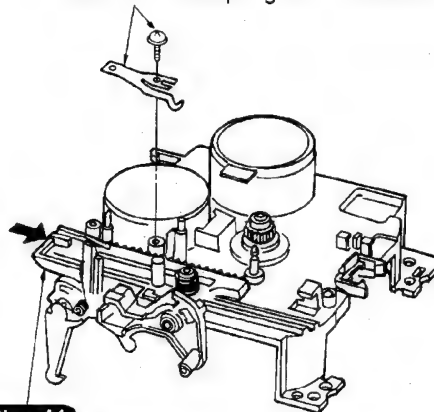


Step 10

Adjusting hooks(A) and (B) of the chassis to notches(A) and (B) of the drive rack, carry out mounting.

**Step 12**

Mount the leaf spring with the screw.

**Step 11**

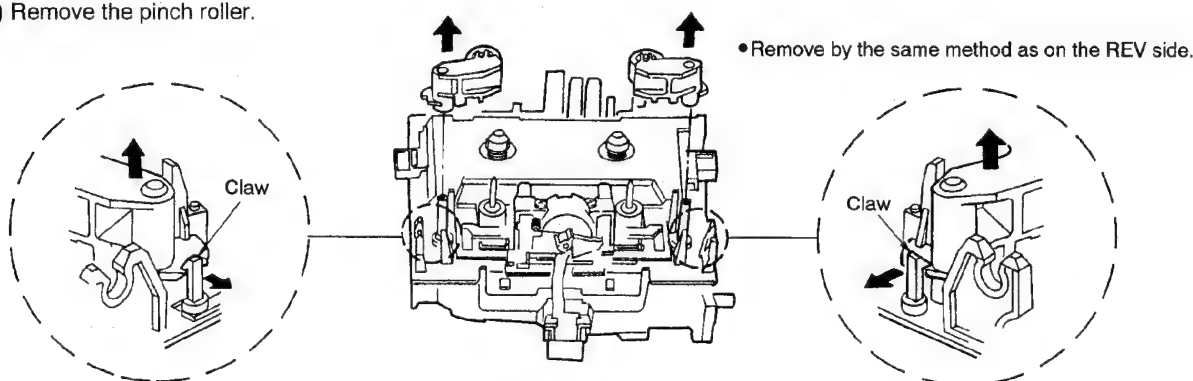
Slide the drive rack.

Head replacement

Step 1 Referring to "Disassembly Instructions"(Ref.No.13), remove the cassette holder ass'y.

Step 2 Remove the 1 claw.

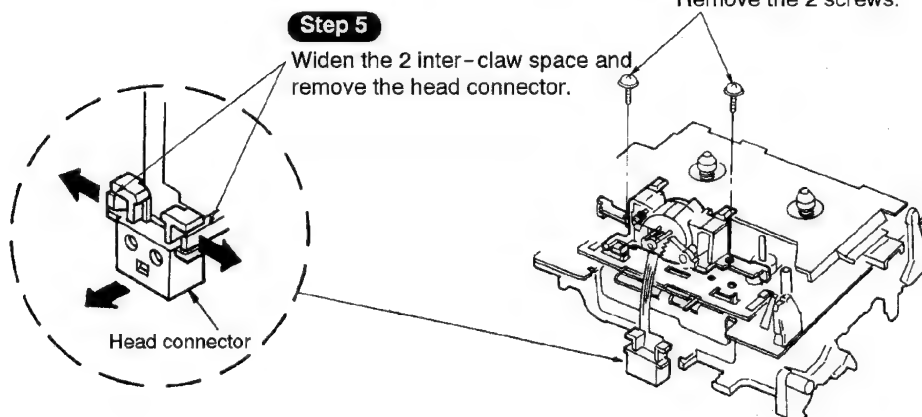
Step 3 Remove the pinch roller.

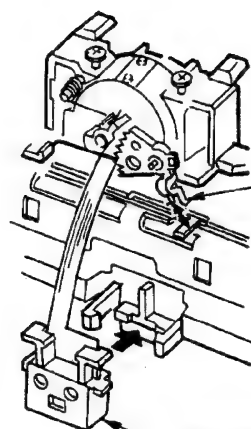
**Step 4**

Remove the 2 screws.

Step 5

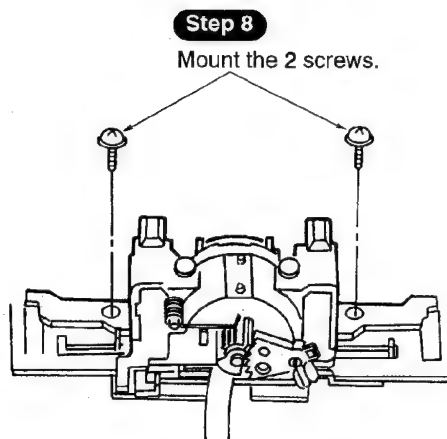
Widen the 2 inter-claw space and remove the head connector.





Step 6
Bring into the mesh.

Step 7
Mount the head connector.



Step 8
Mount the 2 screws.

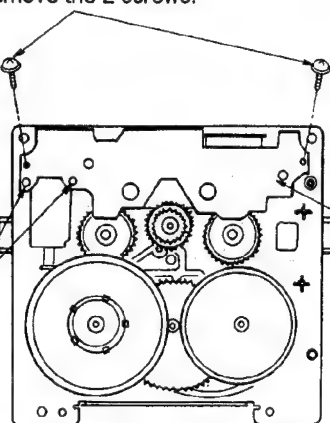
Plunger replacement

Step 1 Referring to "Disassembly Instructions"(Ref.No.14), remove the sub chassis ass'y.

Step 2
Remove the 2 screws.

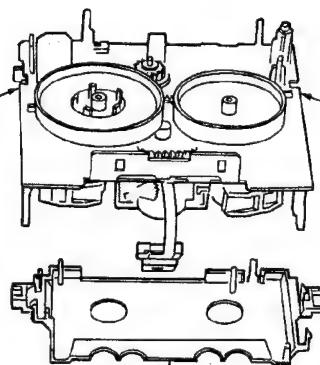
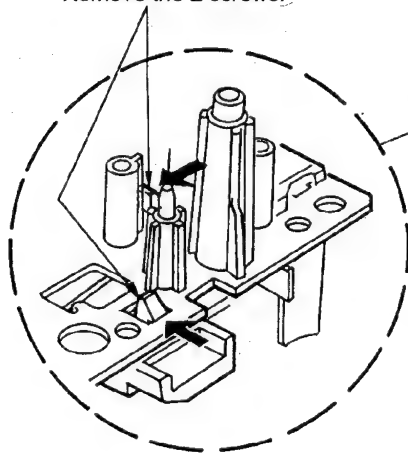
Step 3
Unsolder the 2 points.

Step 4
Raise the P.C.B. while keeping it horizontal.

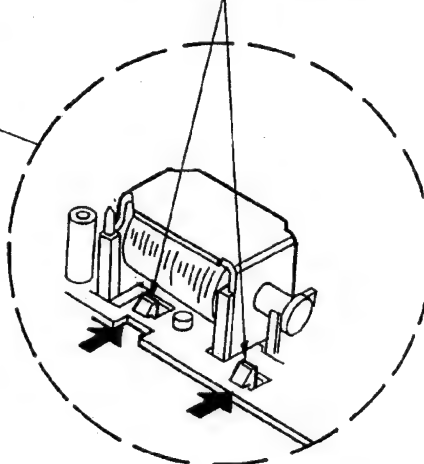


Step 5
Remove the 2 screws.

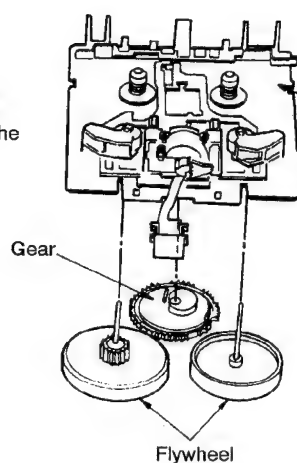
Step 6
Remove the 2 screws.



Step 7
Remove the cover.

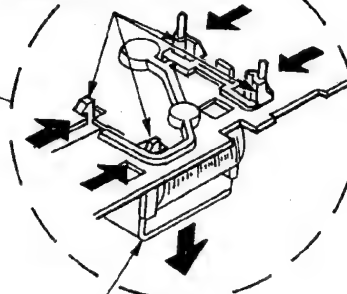


Note: Care should be taken that keeping the mechanism in such position as pictured to the right may displace the flywheels and gear.



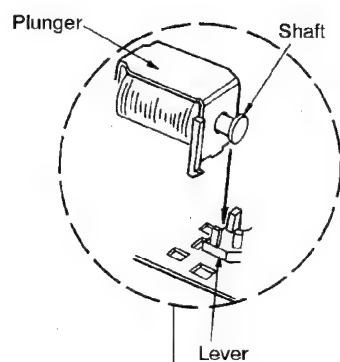
Step 8

Remove the 4 claws.



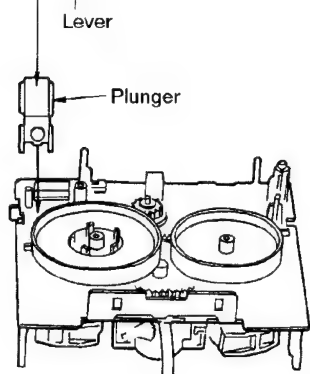
Step 9

Remove the plunger.



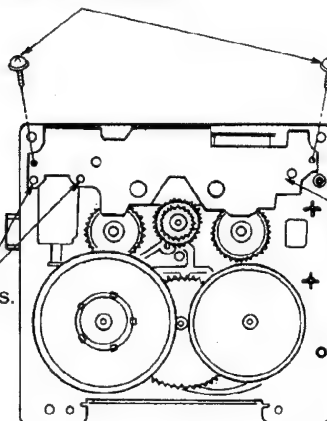
Step 10

Bring into the mesh.



Step 12

Mount the 2 screws.

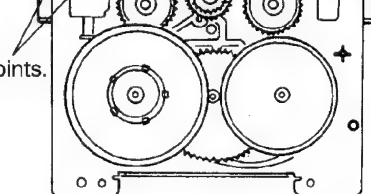


Step 13

Solder the 2 points.

Step 11

Mount the P.C.B.



■ WRITING TO EEPROM

This unit is equipped with EEPROM memory that stores a variety of design data and performance data such as playback gain, bias value, recording gain, recording equalization, etc., which was programmed at the factory.

This EEPROM memory is capable of being read and written to more than 100,000 times. To illustrate this, if one ATC operation is performed every hour continuously every day for ten years, it would still be possible to successfully read and write with the EEPROM.

Data is actually written in this EEPROM only when ATC is actuated or when power supply is turned on or off. Since it hardly breaks down, there will scarcely occur such a trouble as to require replacement.

Measurement Condition

- Recording-level control; Maximum
- Recording-balance control; Center
- Reverse-mode selector switch; \rightleftharpoons
- Tape-to-tape recording-speed switch; Off
- Dolby NR switch; Off
- ATC switch; Off
- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature $20 \pm 5^{\circ}\text{C}$ ($68 \pm 9^{\circ}\text{F}$)

Measuring instrument

- EVM (Electronic Voltmeter)
- Oscilloscope
- AF oscillator
- ATT (Attenuator)
- Resistor (600Ω)

NOTE: Before adjustment, be sure to set the AF oscillator output level to 0dB (1kHz): 1V

Test tape

- Playback gain adjustment (315Hz, 0dB); QZZCFM
- Overall gain adjustment and Overall frequency response
- Normal reference blank tape; QZZCRA
- CrO₂ reference blank tape; QZZCRX
- Metal reference blank tape; QZZCRZ

NOTE: Step 2 to step 7 only has to be done after exchange of the EEPROM.

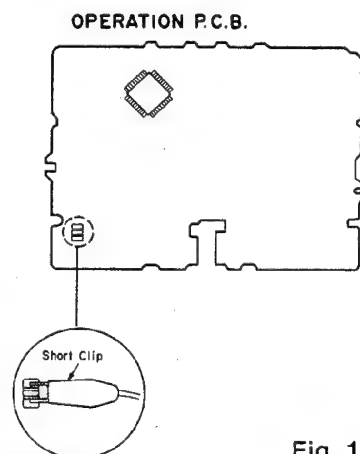
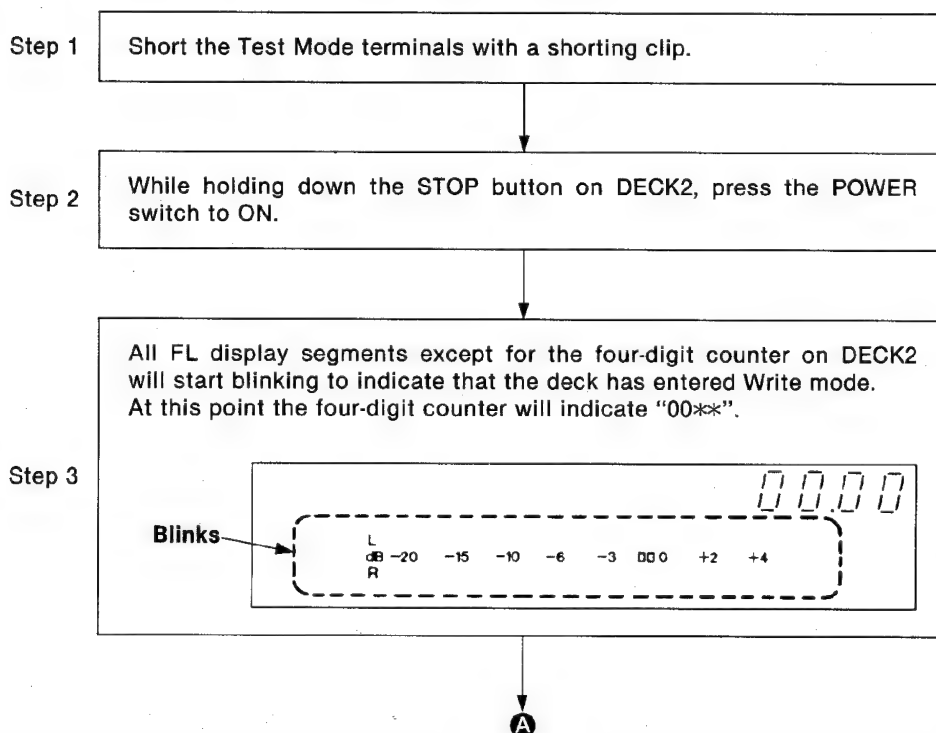


Fig. 1

Notes:

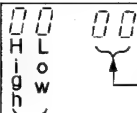
- The test mode terminals on main P.C.B. should be shorted with a short clip as shown above figure.
- After the adjustment items disconnect the short clip.

A

Step 4

The counter shows a four-digit hex number. The two high-order digits indicate a ROM address, and the two low-order digits indicate the data stored at that address.

Step 5



Set these digits using the FF or REW button. The high- and low-order digits of the address increment alternately each time the FF button is pressed. The REW button causes these digits to decrement alternately. For fast incrementing or decrementing, hold down the FF or REW button.

Set these digits using the FWD. PLAY or REV. PLAY button. The high- and low-order digits of the data increment alternately each time the FWD. PLAY button is pressed. The REV. PLAY button causes these digits to decrement alternately. For fast incrementing or decrementing, hold down the FWD. PLAY or REV. PLAY button.

Example: Set "FF" in address 03 (see Fig. 3).


03 5A

Set these digits to "5A" using the FWD. PLAY or REV. PALY button.

Set these digits to "03" using the FF or REW button.

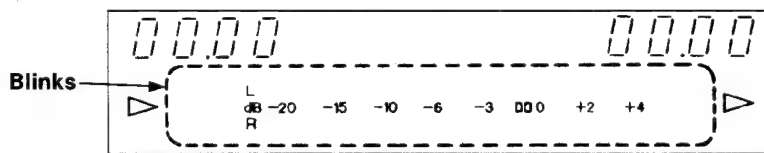
* The data writing process is complete when the next address number appears. For example, writing of the data 03.5A has been completed when the address 04 is displayed.

Step 6

Begin from address 00 and write data up to address 7F (data in ). Check that the data at address 7F is "00" (end), and then exit the write mode.

Step 7

After completing ROM writing, press the STOP button on DECK2 to restore the normal Test mode. The four-digit counter on DECK1 displays.



PLAYBACK GAIN

Step 8

- Set the AF oscillator's output frequency to 315Hz/−20dB (100mV) (see Fig. 2).
- With no tape loaded in the deck, press and hold the REC button. Adjust the test signal level using the Rec. Level and Balance controls until the line output levels on both channels are 320mV. When the adjustment is complete, release the REC button. (The deck stores the data at the moment the REC button is released.)
- Load the test tape, QZZCFM, into the deck and locate the section of the tape where the playback gain test tone (315Hz, 0dB) is recorded, then playback the portion. Press the ATC button, and the display will flash **M** slowly, meaning that playback gain is being automatically adjusted. Press the play button. (At this point the deck automatically adjusts playback gains.) After this play back the tape and verify that the output level falls in the specified range.

Standard value: 320mV±0.5dB

Note: If adjustment of PLAYBACK GAIN fails, the display will flash **M** rapidly. After a successful adjustment, the display will no longer show **M**.

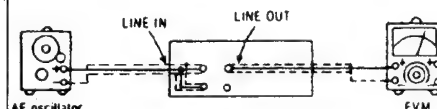


Fig. 2

B

INITIAL SETTING UP FOR OVERALL GAIN AND OVERALL FREQUENCY RESPONSE

Step 9

- Load a Normal blank test tape (QZZCRA) into the deck under test. Press the ATC button, then the REC button. The display will flash **M** slowly. (At this point the deck automatically adjusts the overall gain and frequency response.)
- After the above setting, the overall gain for selection of CrO₂ and Metal tape will be automatically set by the ROM and stored in the ROM.
- Note:** If adjustment of OVERALL GAIN or OVERALL FREQUENCY RESPONSE fails, the display will flash **M** rapidly. After a successful adjustment, the display will no longer show **M**.

Step 10

Remove the shorting clip from the Test Mode terminals. The FL display will stop blinking.

Note: If the microprocessor is replaced, it is not necessary to replace (or write data to) the EEPROM.

• EEPROM MAP

High Low	0	1	2	3	4	5	6	7
0	00	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—
2	—	—	—	—	—	—	—	—
3	5A	—	—	—	—	—	—	—
4	—	—	68	84	90	68	84	90
5	—	—	78	60	60	78	60	60
6	—	—	38	30	18	38	30	18
7	—	—	64	68	78	64	68	78
8	—	—	A8	B0	8C	A8	B0	8C
9	—	—	9A	AA	94	50	70	68
A	—	—	6A	0F	—	80	80	80
B	—	—	70	2B	—	40	50	A0
C	—	—	50	12	—	B8	B4	B8
D	—	—	72	07	—	66	5E	40
E	—	—	4C	FB	00	70	74	02
F	—	—	55	F5	00	47	47	00

Fig. 3

Note: At an address with no data value indicated (e.g. 01 → —), the ROM operates normally irrespective of the kind of the data supplied.

MEASUREMENTS AND ADJUSTMENTS

Measurement Condition

- Recording-level control; Maximum
- Recording-balance control; Center
- Reverse-mode selector switch; \Rightarrow
- Tape-to-tape recording-speed switch; Off
- Dolby NR switch; Off
- ATC switch; Off

- Make sure heads are clean
- Make sure capstan and pressure roller are clean
- Judgeable room temperature $20 \pm 5^\circ\text{C}$ ($68 \pm 9^\circ\text{F}$)

Measuring instrument

- EVM (Electronic Voltmeter)
- Oscilloscope
- Digital frequency counter
- AF oscillator

- ATT (Attenuator)
- DC voltmeter
- Resistor (600Ω)

NOTE: Before adjustment, be sure to set the AF oscillator output level to 0dB (1kHz): 1V

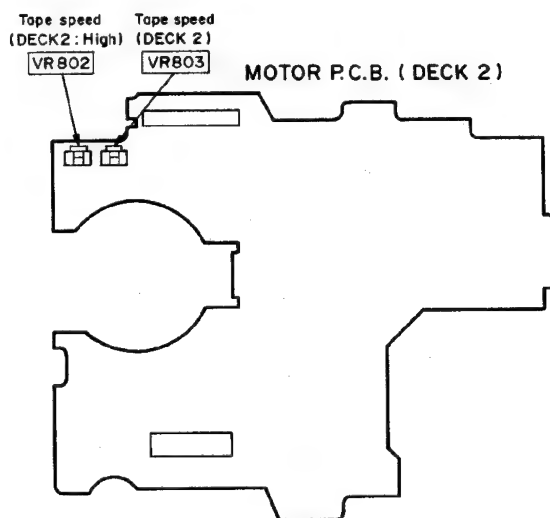
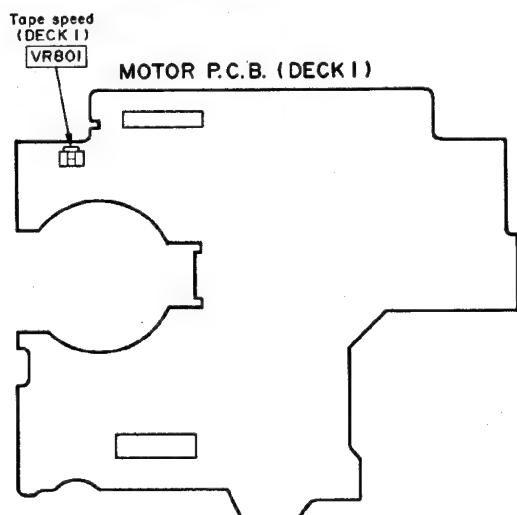
Test tape

- Head azimuth adjustment (8kHz, -20dB)
- Playback frequency response (315Hz, 12.5kHz, 10kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz, 63Hz, -20dB)
- Playback gain adjustment (315Hz, 0dB)

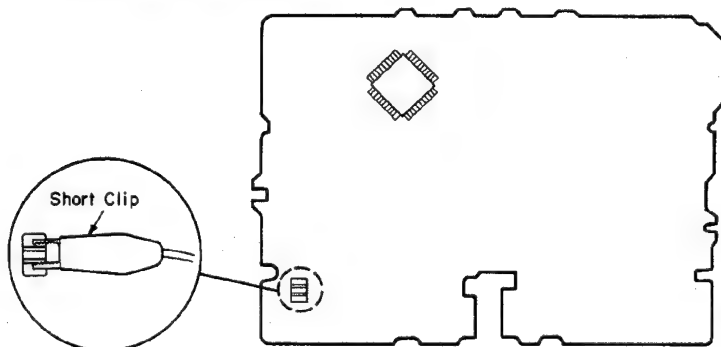
; QZZCFM

- Tape speed adjustment (3kHz, -10dB); QZZCWAT
- Overall gain adjustment and Overall frequency response
- Normal reference blank tape; QZZCRA
- CrO₂ reference blank tape; QZZCRX
- Metal reference blank tape; QZZCRZ

Adjustment Points



OPERATION P.C.B.

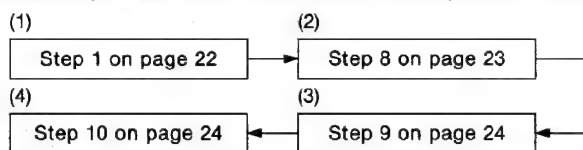


Notes:

- The test mode terminals on mechanism control P.C.B. should be shorted with a short clip as shown above figure.
- After the adjustment items disconnect the short clip.

HEAD REPLACEMENT

When replacing the head, adjust the head azimuth as instructed below, and rewrite the data to the EEPROM.
(By adjusting head azimuth, data is automatically written to the EEPROM.)



(The adjustment is necessary because the playback gain, the overall gain, and the overall frequency response are changed by the head replacement.)

HEAD AZIMUTH ADJUSTMENT (DECK 1/2)

1. Playback the azimuth adjustment portion (8kHz, -20dB) of the test tape (QZZCFM). Vary the azimuth adjusting screw until the output of the R-CH are maximized.
2. Perform the same adjustment in the play mode.
3. Repeat the same check in reverse play mode.
4. After the adjustment, apply screwlock to the azimuth adjusting screw.

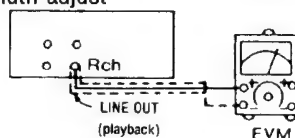


Fig. 1

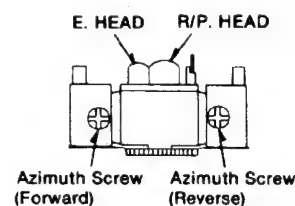


Fig. 2

TAPE SPEED ADJUSTMENT (DECK 1/2)

Normal speed

1. Playback the middle portion of the test tape (QZZCWAT).
2. Short the test terminal.
3. Adjust Deck 1 = VR801 and Deck 2 = VR803 so that the output is within the adjustment target.

Adjustment target: 3000 ± 15Hz (NORMAL speed)

High speed [Set the unit to forward (FWD) mode.]

4. Press the tape-to-tape recording-speed selector switch (X2) button. This will set the high speed mode.
5. Playback the middle portion on the test tape (QZZCWAT).
6. At that time, check if the output from DECK 1 is within the standard value.

Standard value: 6000 ± 600Hz (HIGH speed)

7. Adjust VR802 so that the output frequency of DECK 2 is within ±30Hz for the value of the output frequency of DECK 1.
8. Release the test terminal.

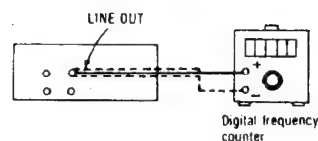


Fig. 3

PLAYBACK GAIN MEASUREMENT (DECK 1/2)

1. Short the test terminal.
2. Load the test tape (QZZCFM) into the deck and locate the part where the playback gain test tone (315Hz, 0dB) is recorded. After this, play back the tape and verify that the output level falls in the specified range.
3. Perform the MEASUREMENT described in step 2 above for both DECK 1 and DECK 2.
4. Release the test terminal.

Standard value: 320mV ± 0.5dB

5. When the data is not within the specified range, the head azimuth should be readjusted as instructed below and the data in the EEPROM rewritten. (By adjusting head azimuth, data is automatically written to the EEPROM.) When adjusting head azimuth, check the test tape for scratches or crease. If any exist, use a different tape and follow instructions 1 to 3 below.

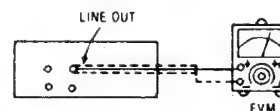
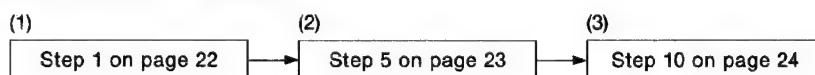


Fig. 4

PLAYBACK FREQUENCY RESPONSE (DECK 1/2)

1. Playback the frequency response portion (315Hz, 12.5kHz~63Hz, -20dB) of the test tape (QZZCFM).
2. Assure that the frequency response is within the range shown in Fig. 6 for both L-CH and R-CH.

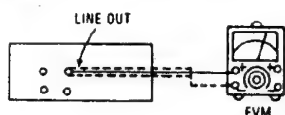


Fig. 5

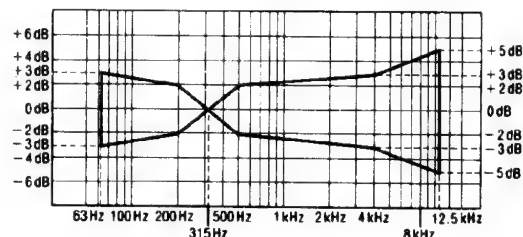


Fig. 6

ERASE CURRENT MEASUREMENT (DECK 1/2)

1. With no tape loaded in the deck, press the Record button.
2. Check if the output at this time between the erase current confirmation point Deck 1=J551 (Deck 2=TP1) and GND (chassis) (the output on both edges of Deck 1=R358 (Deck 2=R308)) is within the standard value.

Standard value: 175 ± 15 mA (Metal)

EVM Reading: 175 ± 15 mV DECK 1 (L353 case \leftrightarrow J551)

DECK 2 (L303 case \leftrightarrow TP1)

The voltage will vary depending on the ground provided.

Measurements must be made at the earth points

(L353 and L303 coils) mentioned above.

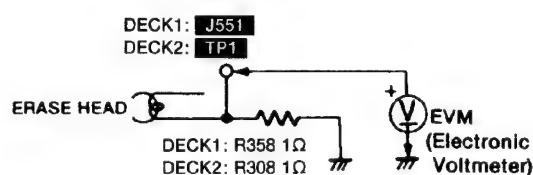


Fig. 7

CONFIRMATION OF THE OVERALL GAIN AND OVERALL FREQUENCY RESPONSE

1. In the Record Pause mode, load a normal blank tape (QZZCRA) into the deck, and apply the reference input signal (1kHz, -24dB) to the Rec. input. Adjust the output to 320mV with the attenuator, and start recording.
2. While playing back the reference signal just recorded, verify that the output level falls in the following range.

Standard value: $320 \text{ mV} \pm 0.5 \text{ dB}$

3. Afterward, apply a signal (frequency at the measured point in the range from 50Hz to 10kHz), whose level is 20dB lower than the reference signal level (1kHz, -24dB=approx. 63mV), to the Rec. input. Then start recording with a normal blank tape (QZZCRA).
4. Play back the test signals just recorded and verify that the levels at the test frequencies fall in the ranges specified in Fig. 8 with respect to the reference signal level.
5. Repeat steps 3 and 4 above for CrO₂ blank test tape (QZZCRX) and Metal blank test tape (QZZCRZ), in these cases raising the upper end of the test signal frequency range to 12.5kHz. Verify that the signal levels at the test frequencies fall in the ranges specified in Fig. 9 with respect to the reference signal level.
6. Perform the same checks both DECK 1 and DECK 2. Steps 1 through 2 above are concerned with overall gain; steps 3 through 5 pertain to overall frequency response.
7. When the data is not within the specified range, the head azimuth should be readjusted as instructed below and the data in the EEPROM rewritten. (By adjusting head azimuth, data is automatically written to the EEPROM.) When adjusting head azimuth, check the test tape for scratches or creases. If any exist, use a different tape and follow instructions 1 to 4 below.
8. If outside the standard value, data in EEPROM should be written again by taking the following procedure and thereafter section 1-6 should be carried out again.

Normal Overall frequency response chart (NR OUT)

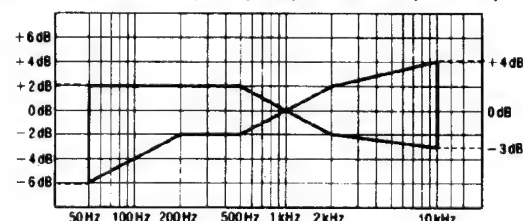


Fig. 8

CrO₂ Metal Overall frequency response chart (NR OUT)

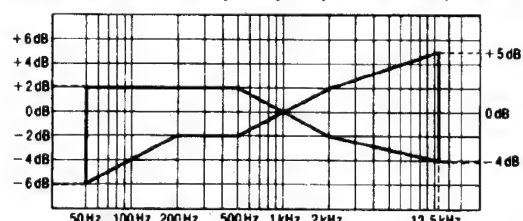


Fig. 9

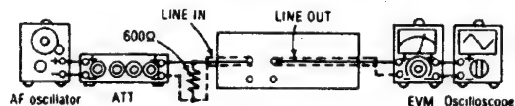







Fig. 10


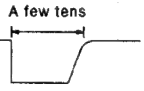

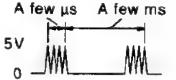


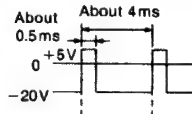
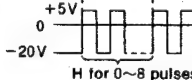



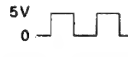


■ TERMINAL FUNCTION OF IC

• IC701 (M38123M4101F): MICROCOMPUTER


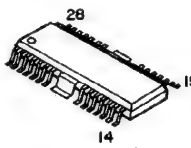
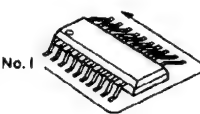
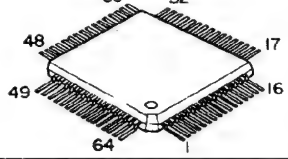
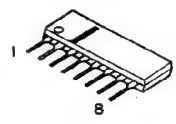
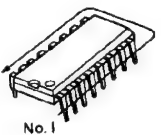
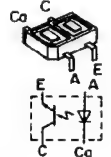
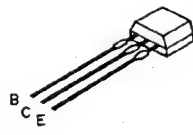
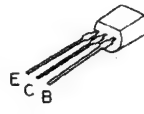
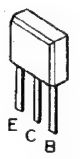
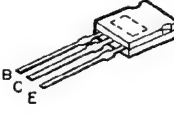
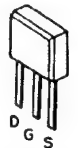
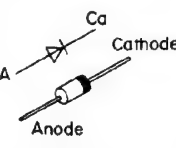
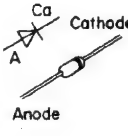
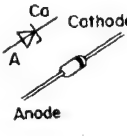
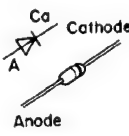
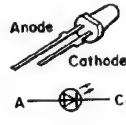
* To check the contents of the item "※" in the IC terminal table, set the unit to the state described in the "Motor Control PCB Checking Method" on page 31.

Pin No.	Mark	I/O Division	Function	Check point	※ Discription
1	AD1D2	I	Deck 2 Mechanism switch (FINH, CrO ₂ , Metal, OPEN/CLOSE) input	Connector CN2 ③ pin	No tape load: Approx. 4.1V Normal tape with tab: Approx. 0V CrO ₂ tape with tab: Approx. 1.1V Metal tape with tab: Approx. 1.7V
2	ADD1C	I	Common input on Deck 1 with analog IC switch	IC703 ⑬ pin	The waveform changes with the meter input signal.
3	ADD2C	I	Common input on Deck 2 with analog IC switch	IC703 ⑭ pin	
4	KEY3	I	Key switch input	IC701 ④ pin	An analog value from 0 to 5V appears when an input key for power, synchro-start, X1/X2, NR, reverse, modification or test mode is pressed. +5V without any key inputs and 0V with the power key ON.
5	SEL-B	O	Select output B with the analog IC switch	IC703 ⑨ pin	 Constant pulse output.
6	POWER	O	Power control output ON: "H", OFF: "L"	Connector CN3 ⑬ pin	Power ON: "H" (=5V) Power OFF: "L" (=0V)
7	SEL-A	I/O	Select output A with the analog IC switch	IC703 ⑩ pin	 Constant pulse output.
8	MSP	I	TPS signal det. input ON: "L", OFF: "H"	Connector CN3B ⑨ pin	TPS mode No program: "H" (=5V) Programs: "L" (=0V)
9	—	—	Not used	—	—
10	DMT	O	Line out mute signal output ON: "L", OFF: "H"	Connector CN3 ⑭ pin	"L" (=0V) when sound is being produced in the play or REC mode and "H" (=2.5~5V) when no sound is produced in the stop of FF/REW mode.
11	ECS	O	E2PROM chip select signal ON: "H", OFF "L"	Connector CN704 ① pin CN704 ⑤ pin	 (ex...For ↑ REV PLAY mode is changed)
12	ECLK	O	E2PROM serial clock output ON: "L", OFF: "H"	Connector CN704 ② pin CN704 ④ pin	 Waveform appears in response to 11 above.
13	EDAT	I/O	E2PROM serial data input/output	Connector CN704 ③ pin	 (ex...For ↔ REV PLAY mode is changed) Waveform appears in response to 11 above.
14	PBADJ	O	Playback adj. output ON: "H", OFF: "L"	Connector CN3 ⑦ pin	Used for adjustment at factory but in the finished product. Remains at "L" (=0V).
15	OSC	O	Audio signal for adjustment output	Connector CN3 ⑥ pin	Generated signals at approx. 400Hz, 10kHz and 3kHz (square wave (H and L, 0 and 5V) in REC mode during adjustment of ATC).
16	STB	O	Strobe (load) output for the DA converter (IC151)	Connector CN3 ⑪ pin	Used to load output for the DA converter (IC151).
17	REMOTE	I	Remocon signal input ON: "H", OFF: "L"	Z701 ① pin	H and L pulse waveform appears on the input of a remote control signal.

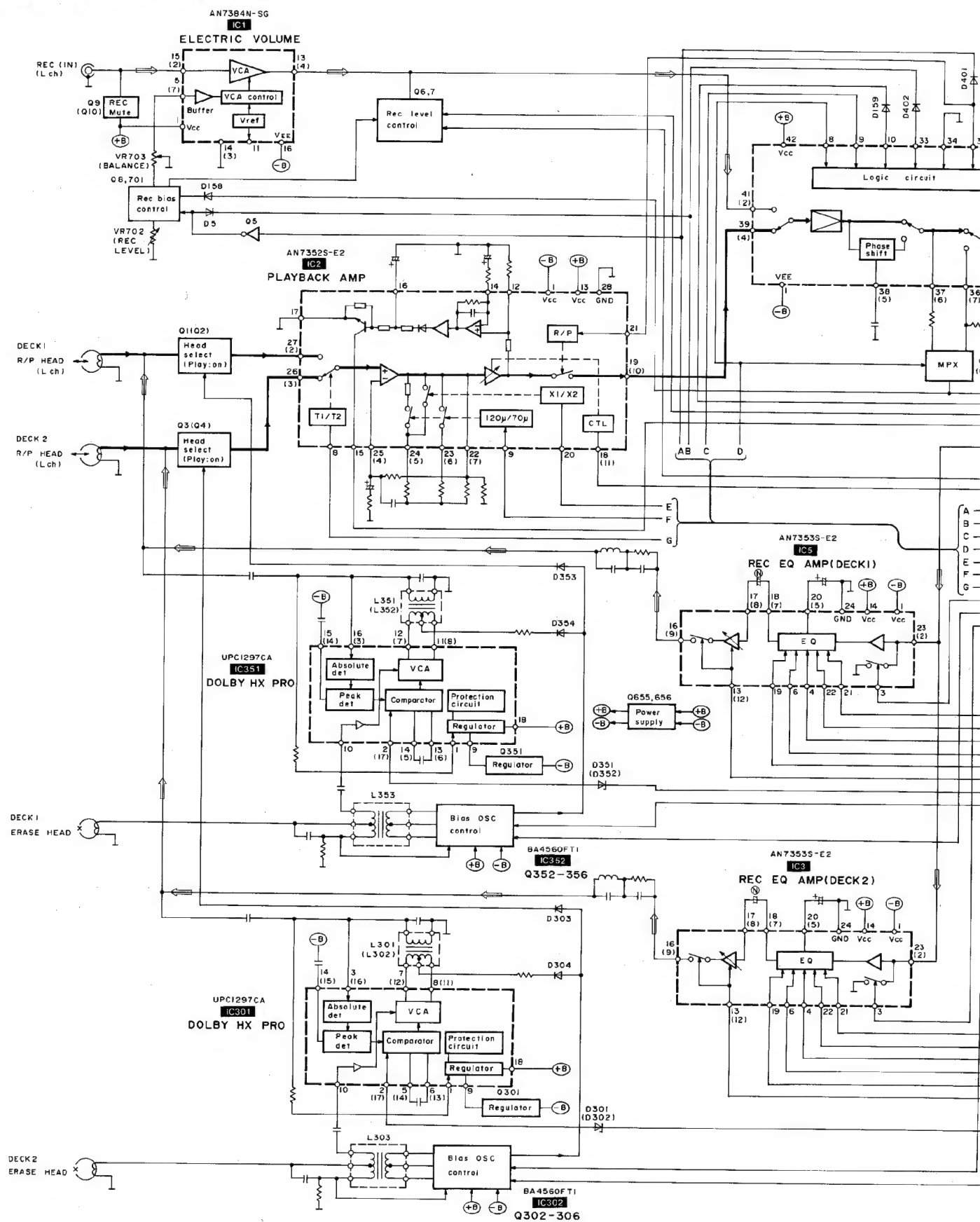
Pin No.	Mark	I/O Division	Function	Check point	※ Discription
18	POF	I	Power off det. input ON: "H", OFF: "L"	Connector CN3 ⑫ pin	 <p>Rectified waveform at both 50 and 60Hz (clamping at 5V)</p> <p>The microprocessor goes into standby mode when this signal is removed.</p>
19	RESET	I	Reset input ON: "L", OFF: "H"	IC701 ⑨ pin	 <p>Usually H (=5V) but L for a period of a few to a few tens of milliseconds is first plugged in when the player.</p>
20	SDAT	O	Serial data output for DA converter (IC151)/serial-parallel converter (IC152) ON: "H", OFF: "L"	Connector CN3 ⑩ pin	 <p>Data output in response to 21</p>
21	SCLK	O	Serial clock output for DA converter (IC151)/serial-parallel converter (IC152) ON: "H", OFF: "L"	Connector CN3 ⑨ pin	 <p>Pulse signal is emitted only when a mode change occurs.</p>
22	XIN	I	Microcomputer clock OSC terminal	Z702 ① pin terminal	 <p>Oscillator waveform at 6MHz</p>
23	XOUT	O	Microcomputer clock OSC terminal	Z702 ③ pin terminal	 <p>Oscillator waveform at 6MHz</p>
24	GND	—	Microcomputer GND	IC701 ⑭ pin	0V
25	MLAT2	O	Latch output (Deck 2) for mechanism control ON: "H", OFF: "L"	Connector CN2 ⑦ pin	Serial data is sent to: IC801, IC802, and the mechanism driver IC. Select the Deck 2 data from this serial data and load it into IC802.
26	MLAT1	O	Latch output (Deck 1) for mechanism control ON: "H", OFF: "L"	Connector CN1 ⑥ pin	Select the Deck 1 data from the serial data and load it into IC801.
27	MDAT	O	Serial data output for mechanism control ON: "H", OFF: "L"	Connector CN1 ⑤ pin CN2 ⑥ pin	Serial data used to control the mechanism driver via IC801 and IC802.
28	MCLK	O	Serial clock output for mechanism control ON: "H", OFF: "L"	Connector CN1 ④ pin CN2 ⑤ pin	Emitted only when mechanism mode changes.
29 } 45	P1 } P17	O	FL meter segment output ON: "H", OFF: "L"	FL701 ⑫~⑳ pin	
46 } 52	1G } 7G	O	FL meter glid output ON: "H", OFF: "L"	FL701 ⑤~⑪ pin	 <p>H for 0~8 pulses of duration approx. 0.5ms each.</p>

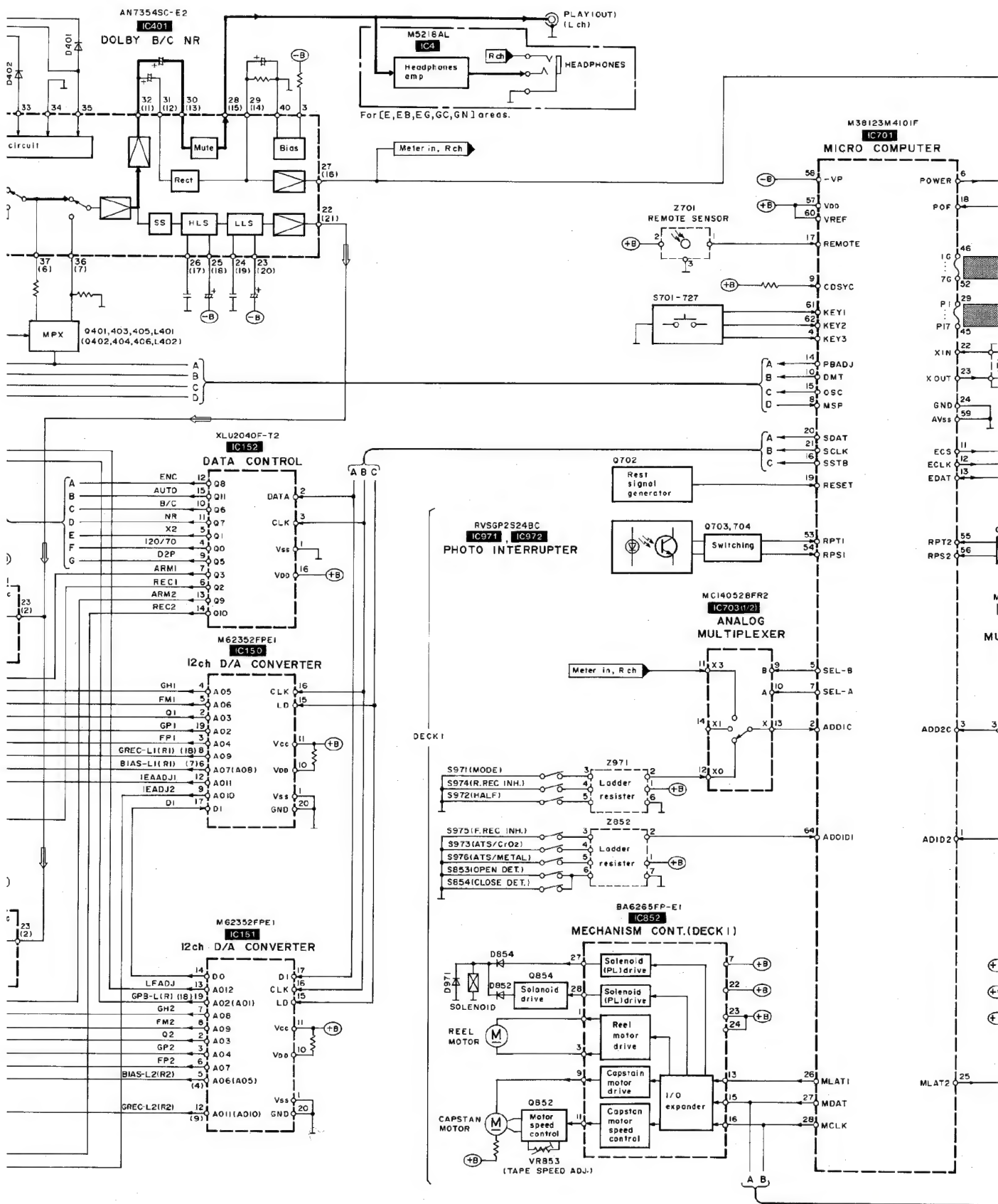
Pin No.	Mark	I/O Division	Function	Check point	※ Discription
53	RPT1	I	Deck 1 reel pulse det. input (take up side)	TRANSISTOR Q703 collector	 <p>Changes within the 0 ↔ 5V range each time the take up reel on deck 1 is through approximately 30 degrees.</p>
54	RPS1	I	Deck 1 reel pulse det. input (supply side)	TRANSISTOR Q704 collector	 <p>Supply reel on deck 1 Fast FF/REW mode is disabled unless both signals 53 and 54 are active.</p>
55	RPT2	I	Deck 2 reel pulse det. input (take up side)	TRANSISTOR Q705 collector	 <p>Take up reel on deck 2</p>
56	RPS2	I	Deck 2 reel pulse det. input (supply side)	TRANSISTOR Q706 collector	 <p>Supply reel on deck 2 Fast FF/REW mode is disabled unless both signals 55 and 56 are active.</p>
57	V _{DD}	—	Microcomputer terminal	Connector CN3 ⑫ pin	+5V, Backup
58	-VP	—	FL meter pull down voltage input terminal	Connector CN3 ⑬ pin	-20V
59	AV _{SS}	—	GND terminal (A/D)	Connector CN3 ⑭ pin	0V
60	V _{REF}	I	Reference power supply (+5V) (A/D)	Connector CN3 ⑮ pin CN1 ⑧ pin CN2 ⑨ pin	Can be checked at pin 7 of connector CN801 or at pin 9 of CN802.
61	KEY1	I	Key switch input	IC701 ⑩ pin	<p>DECK 1:</p> <p>When no key is pressed: 5V</p> <p>When Stop key is pressed: 0.4V</p> <p>When Power key is pressed: 0V</p> <p>When any other key is pressed: 0 to 5V</p>
62	KEY2	I	Key switch input	IC701 ⑪ pin	<p>DECK 2:</p> <p>When no key is pressed: 5V</p> <p>When Stop key is pressed: 0.4V</p> <p>When any other key is pressed: 0 to 5V</p>
63	MODEL2	I	Model selector switch	IC701 ⑫ pin	Approx. 5V
64	AD1D1	I	Deck 1 Mechanism switch (FINH, CrO ₂ , Metal, OPEN/CLOSE) input	Connector CN1 ③ pin	<p>No tape loaded: Approx. 4.1V</p> <p>Normal tape with tab: Approx. 2.3V</p> <p>Chrome tape with tab: Approx. 3.5V</p> <p>Metal tape with tab: Approx. 3.5V</p>

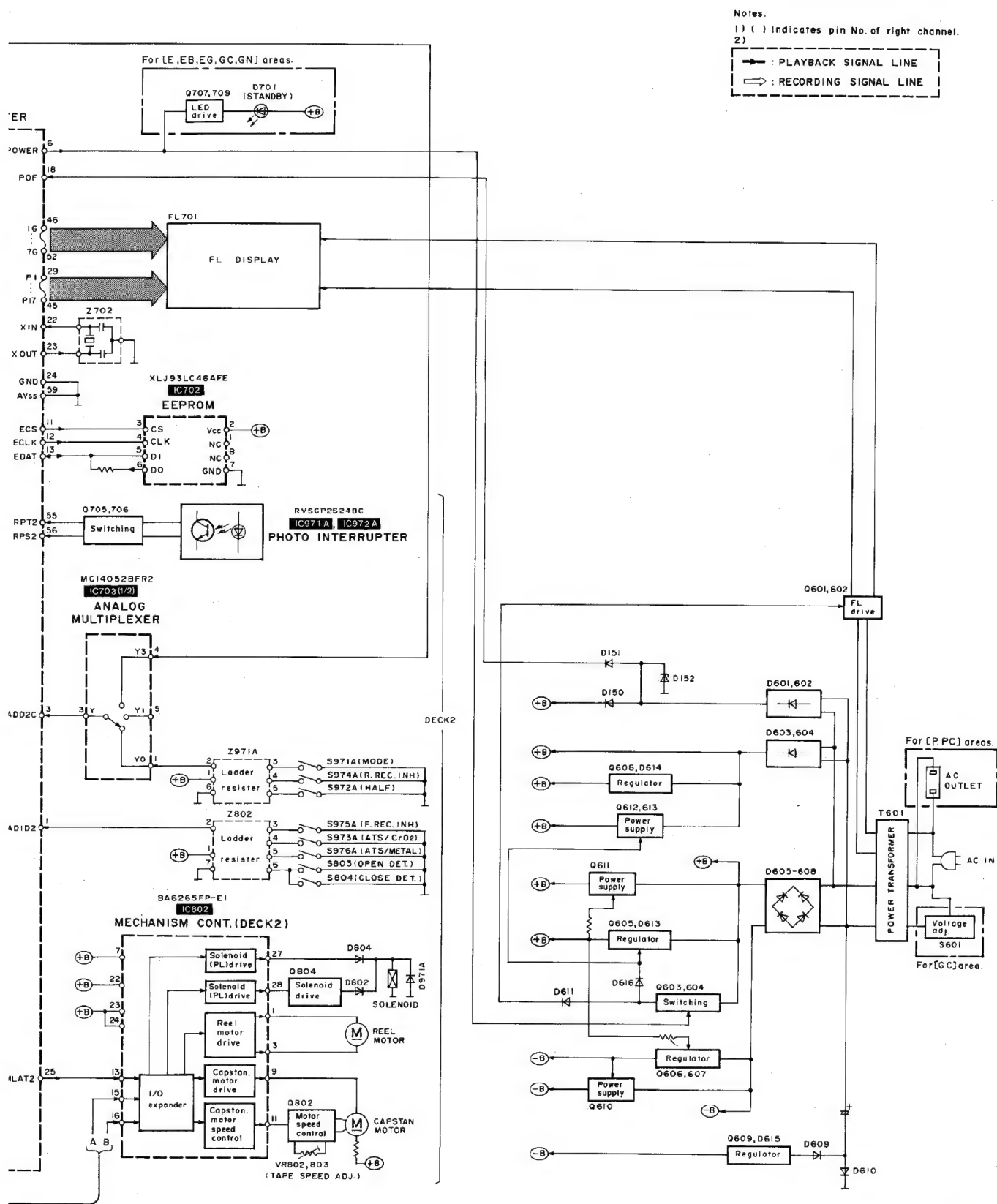
■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

BA4560FT1 	BA6265FP-E1 	No. 1 	<table><tr><td>XLJ93LC46AFE</td><td>8 Pin</td></tr><tr><td>XLU2040F-T2</td><td>16 Pin</td></tr><tr><td>MC14052BFR2</td><td>16 Pin</td></tr><tr><td>M62352FPE1</td><td>20 Pin</td></tr><tr><td>AN7353S-E2</td><td>24 Pin</td></tr><tr><td>AN7352S-E2</td><td>28 Pin</td></tr><tr><td>AN7354SC-E2</td><td>42 Pin</td></tr></table>	XLJ93LC46AFE	8 Pin	XLU2040F-T2	16 Pin	MC14052BFR2	16 Pin	M62352FPE1	20 Pin	AN7353S-E2	24 Pin	AN7352S-E2	28 Pin	AN7354SC-E2	42 Pin	M38123M4101F 
XLJ93LC46AFE	8 Pin																	
XLU2040F-T2	16 Pin																	
MC14052BFR2	16 Pin																	
M62352FPE1	20 Pin																	
AN7353S-E2	24 Pin																	
AN7352S-E2	28 Pin																	
AN7354SC-E2	42 Pin																	
M5218AL 	<table><tr><td>AN7384N-SG</td><td>16 Pin</td></tr><tr><td>UPC1297CA</td><td>18 Pin</td></tr></table> 	AN7384N-SG	16 Pin	UPC1297CA	18 Pin	RVSGP2S24BC 	DTA114ESTP DTC114ESTP DTC114YSTP 											
AN7384N-SG	16 Pin																	
UPC1297CA	18 Pin																	
KSB564ACYGTA 		2SA1309AIRTA 2SB1030AQSTA 2SC3311AIRTA 2SD1450RSTTA	2SB1357EFTA 2SD2037EFTA 	2SJ164PQRTA 	1SR35200TB 													
	MA165TA MA167TA MA723TA RVD1SS133TA MA29WATA		MTZJ5R1BTA MTZJ6R2BTA MTZJ6R8BTA MTZJ8R2CTA MTZJ20DTA	MA188TA 	LN28RPX 													

BLOCK DIAGRAM














■ SCHEMATIC DIAGRAM (Parts list on pages 61~66.)

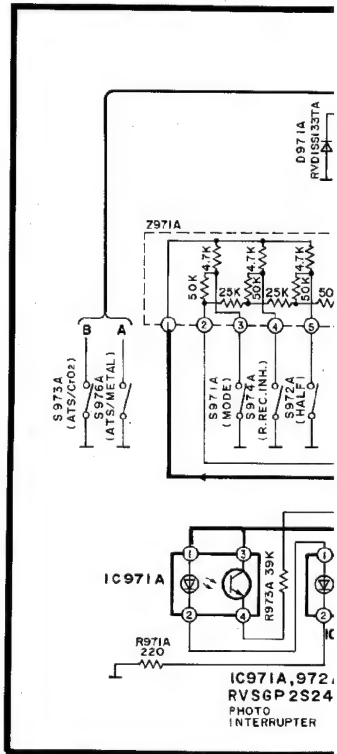
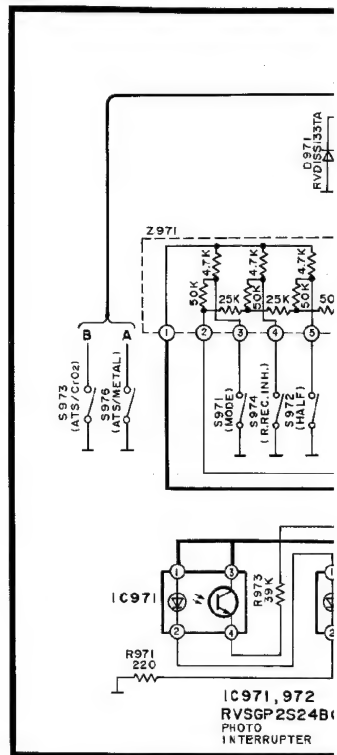
(This schematic diagram may be modified at any time with the development of new technology.)

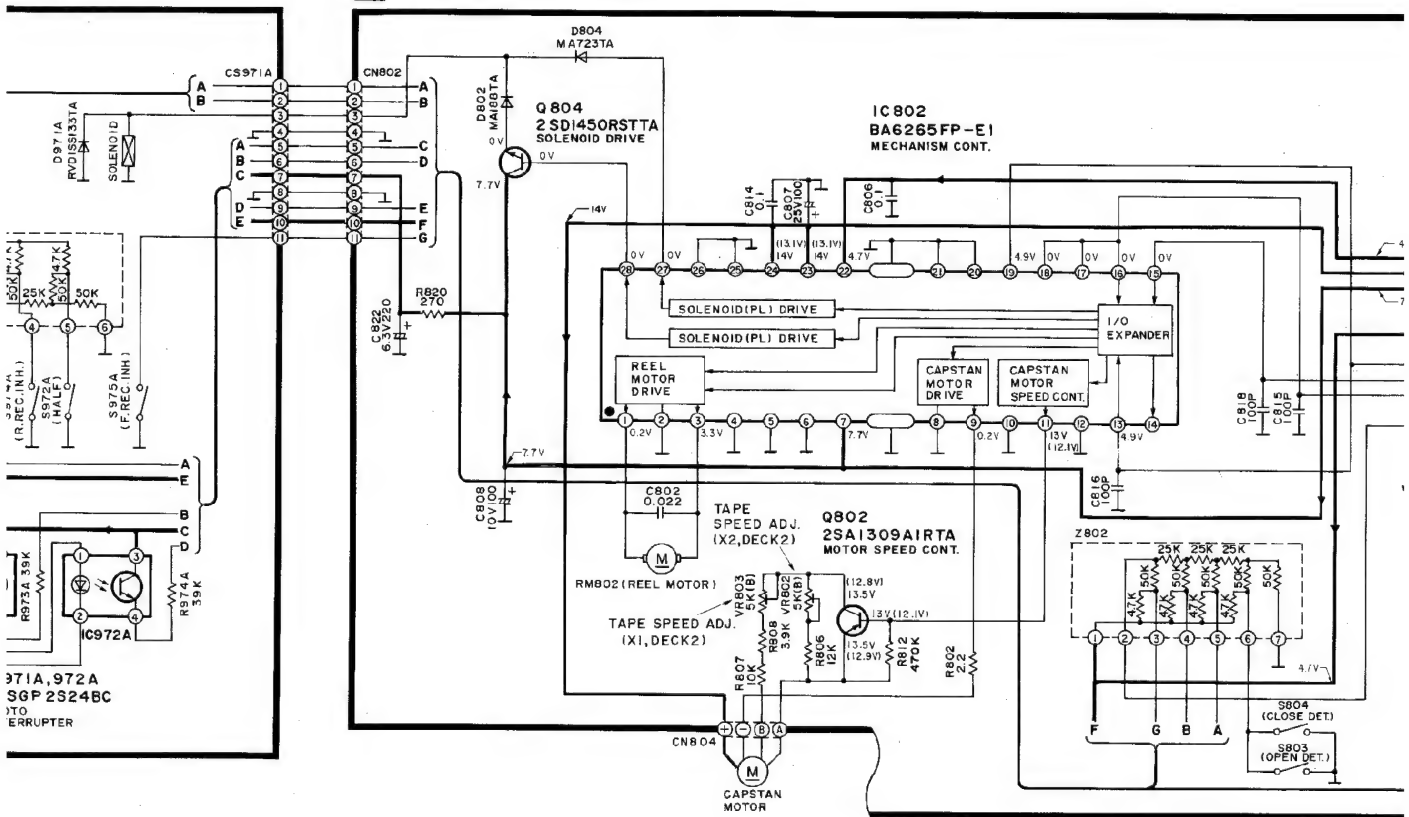
Note 1:

- S601 : Voltage selector in "240V" position. (For [GC] area only.)
(110V ↔ 127V ↔ 220V ↔ 240V)
- S701 : DECK 2 Stop switch (■).
- S702 : DECK 2 Forward-side playback switch (▶).
- S703 : DECK 2 Reverse-side playback switch (◀).
- S704 : DECK 2 Fast-forward search switch (▶▶ TPS).
- S705 : DECK 2 Rewind search switch (◀◀ TPS).
- S706 : DECK 2 Open/close switch (▲ OPEN/CLOSE).
- S707 : DECK 2 Record switch (● REC).
- S708 : DECK 2 Pause switch (■ PAUSE).
- S709 : DECK 2 Automatic-record-muting switch (● AUTO REC MUTE).
- S710 : Auto tape calibration switch (ATC).
- S711 : DECK 1 Counter reset switch (COUNTER 1 RESET).
- S712 : Power "STANDBY ◊ /ON" switch (POWER, STANDBY /ON).
- S713 : DECK 1 Stop switch (■).
- S714 : DECK 1 Forward-side playback switch (▶).
- S715 : DECK 1 Reverse-side playback switch (◀).
- S716 : DECK 1 Fast-forward search switch (▶▶ TPS).
- S717 : DECK 1 Rewind search switch (◀◀ TPS).
- S718 : DECK 1 Open/close switch (▲ OPEN/CLOSE).
- S719 : DECK 1 Record switch (● REC).
- S720 : DECK 1 Pause switch (■ PAUSE).
- S721 : DECK 1 Automatic-record-muting switch (● AUTO REC MUTE).
- S722 : Auto tape calibration switch (ATC).
- S723 : DECK 2 Counter reset switch (COUNTER 2 RESET).
- S724 : Dolby noise-reduction switch (DOLBY NR; , .
- S725 : Synchro-start switch (SYNCHRO START).
- S726 : Tape-to-tape recording-speed switch (SPEED; X1, X2).
- S727 : Reverse-mode select switch (REVERSE MODE).
- S803 : DECK 2 Cassette holder open detection switch in "off" position.
- S804 : DECK 2 Cassette holder close detection switch in "off" position.
- S853 : DECK 1 Cassette holder open detection switch in "off" position.
- S854 : DECK 1 Cassette holder close detection switch in "off" position.
- S971 : DECK 1 Mode switch in "off" position.
- S971A : DECK 2 Mode switch in "off" position.
- S972 : DECK 1 Half switch in "off" position.
- S972A : DECK 2 Half switch in "off" position.
- S973 : DECK 1 ATS (CrO₂) switch in "off" position.
- S973A : DECK 2 ATS (CrO₂) switch in "off" position.
- S974 : DECK 1 Reverse rec. inhibit switch in "off" position.
- S974A : DECK 2 Reverse rec. inhibit switch in "off" position.
- S975 : DECK 1 Forward rec. inhibit switch in "off" position.
- S975A : DECK 2 Forward rec. inhibit switch in "off" position.
- S976 : DECK 1 ATS (Metal) switch in "off" position.
- S976A : DECK 2 ATS (Metal) switch in "off" position.
- Resistance are in ohms (Ω), 1/4 watt (W) unless specified otherwise.
1K=1,000 (Ω), 1M=1,000k (Ω)
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified.
() Voltage values at record mode.
- For measurement us EVM.
- Important safety notice
Components identified by  mark have special characteristics Important for safety.
When replacing any of these components, use only manufacturer's specified parts.
- ( +B) Indicates +B (bias).
- ( -B) Indicates -B (bias).
- () indicates the flow of the playback signal.
- () indicates the flow of the record signal.
- The supply part number is described alone in the replacement parts list.

Ref. No.	Production Part No.	Supply Part No.
IC4	M5218AL	M5218L
IC152	XLU2040F-T2	XLU2040F-T1
IC302, 352	BA4560FT1	SVIBA4560FT1

※ marks indicate printed resistor.

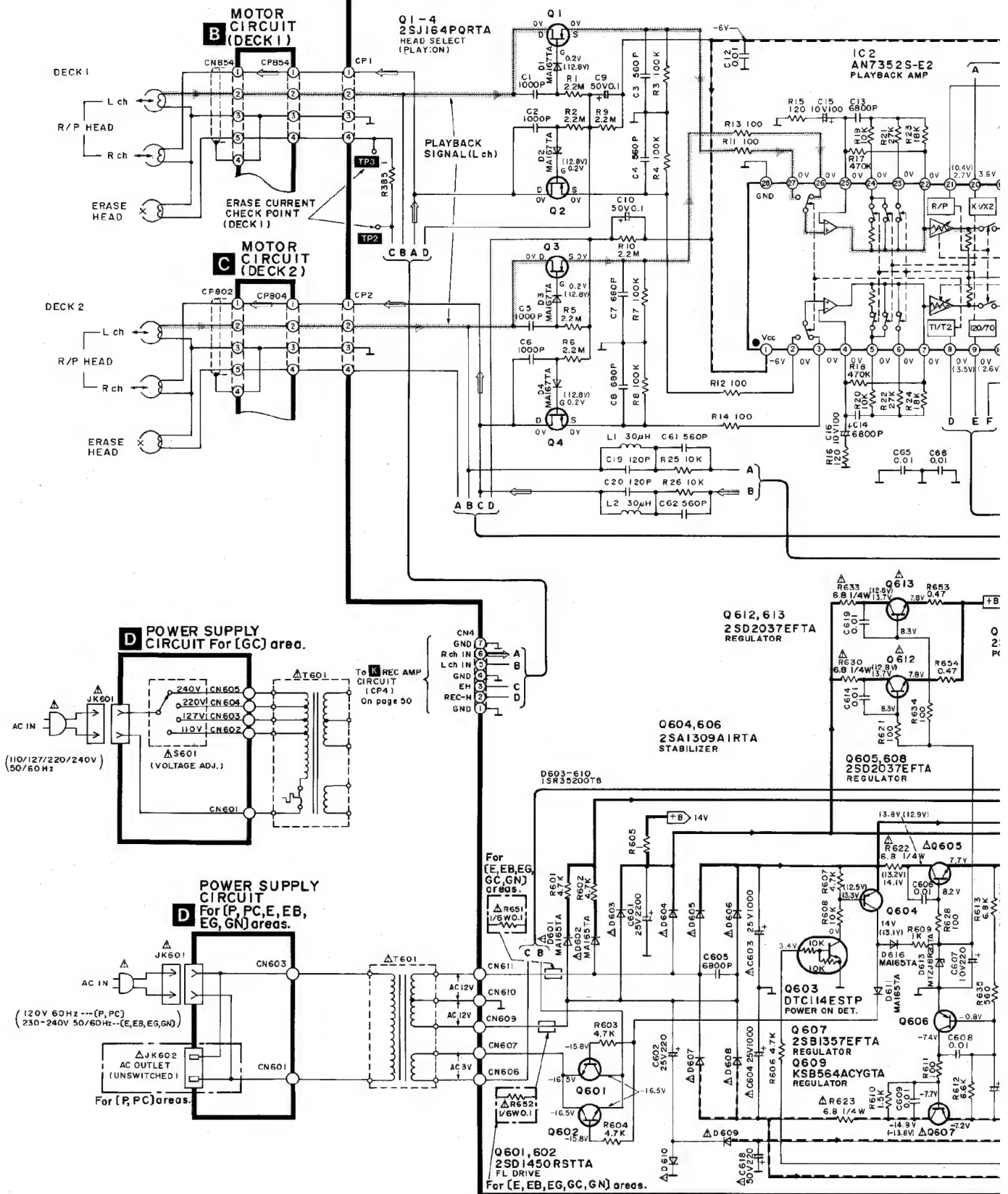




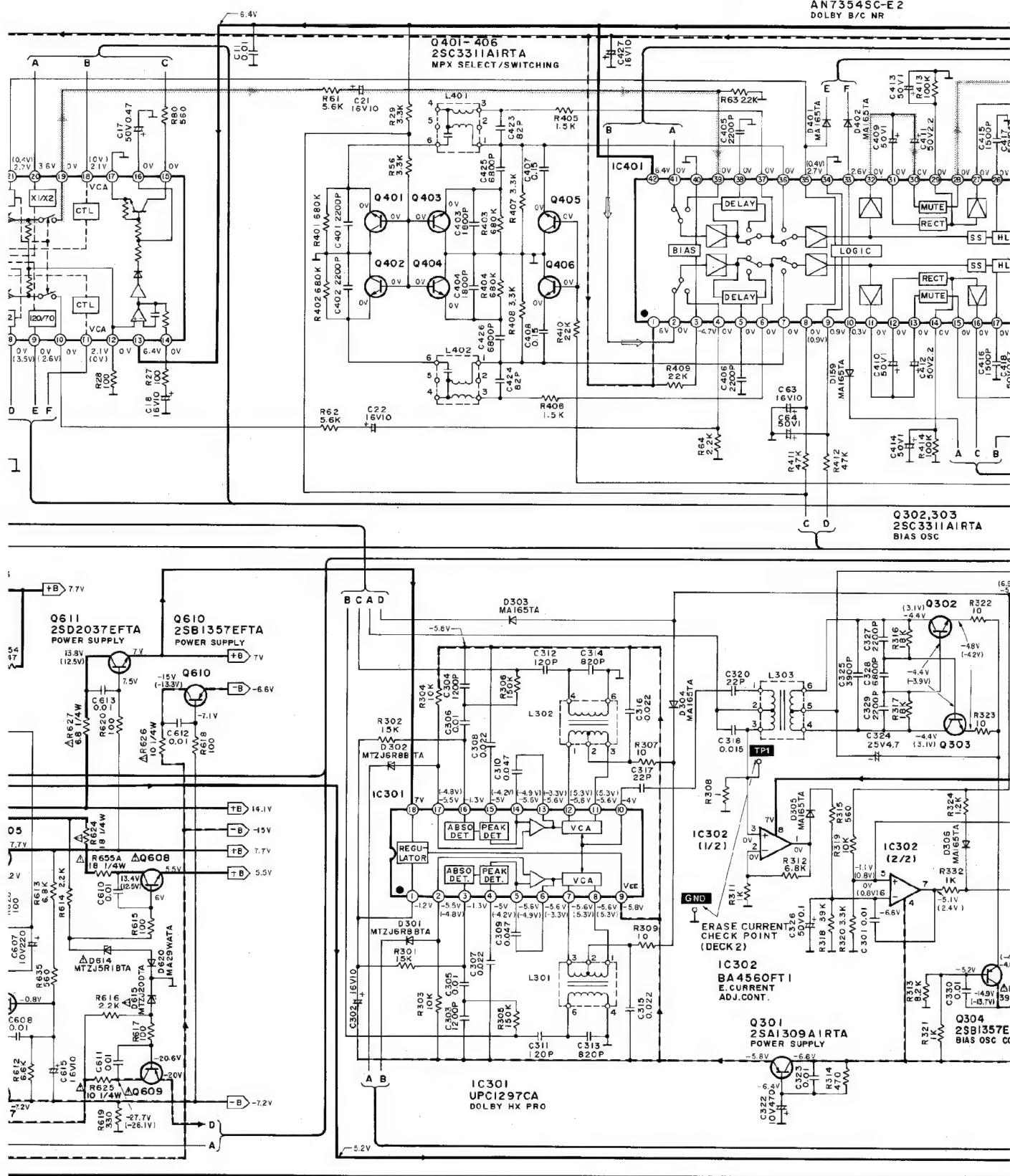
G FL CIRCUIT

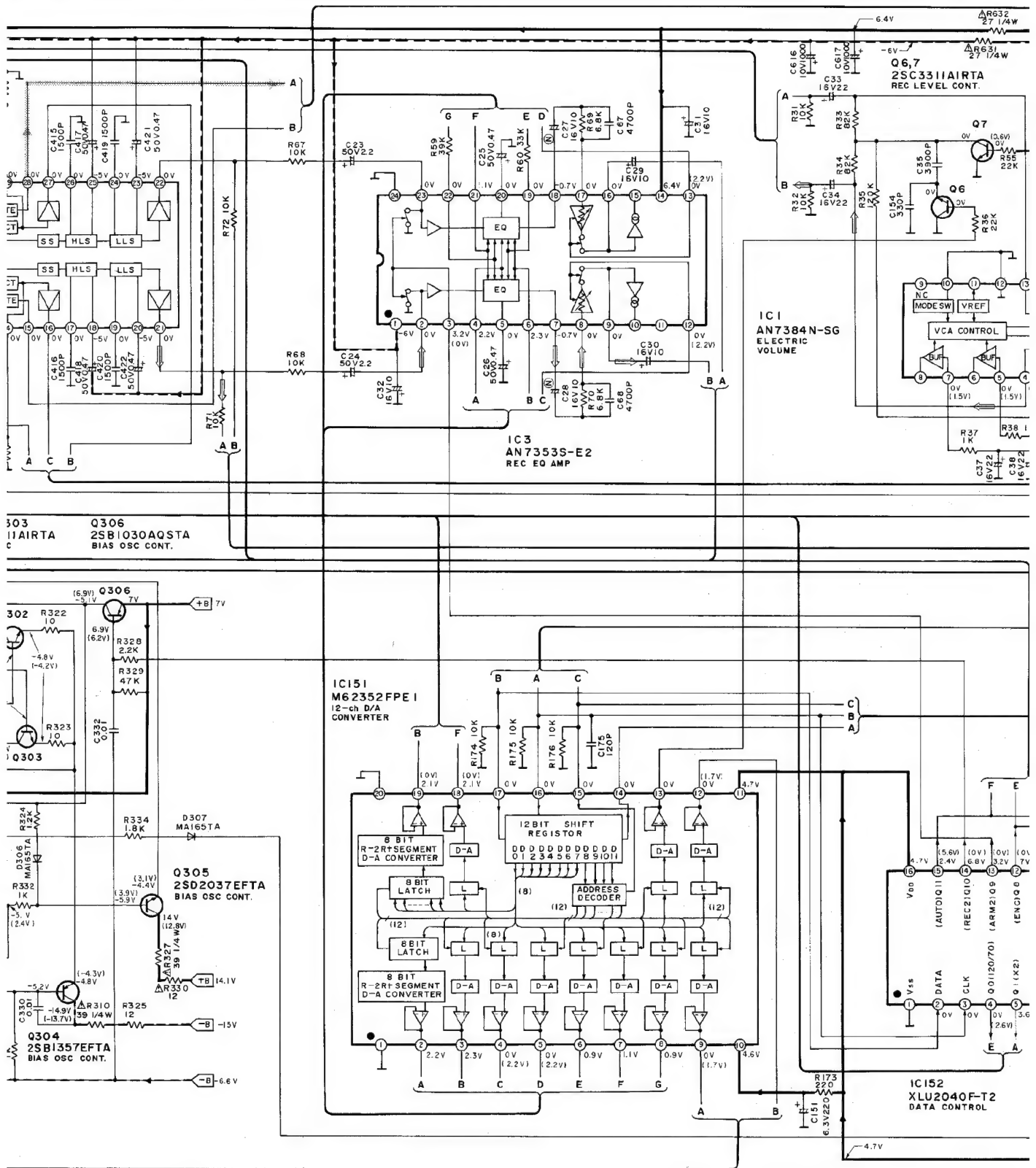


A MAIN CIRCUIT (PLAYBACK EQ AMP/POWER SUPPLY/DOLBY NR/HX PRO/BI



1C401
AN7354SC-E2
DOLBY B/C NR





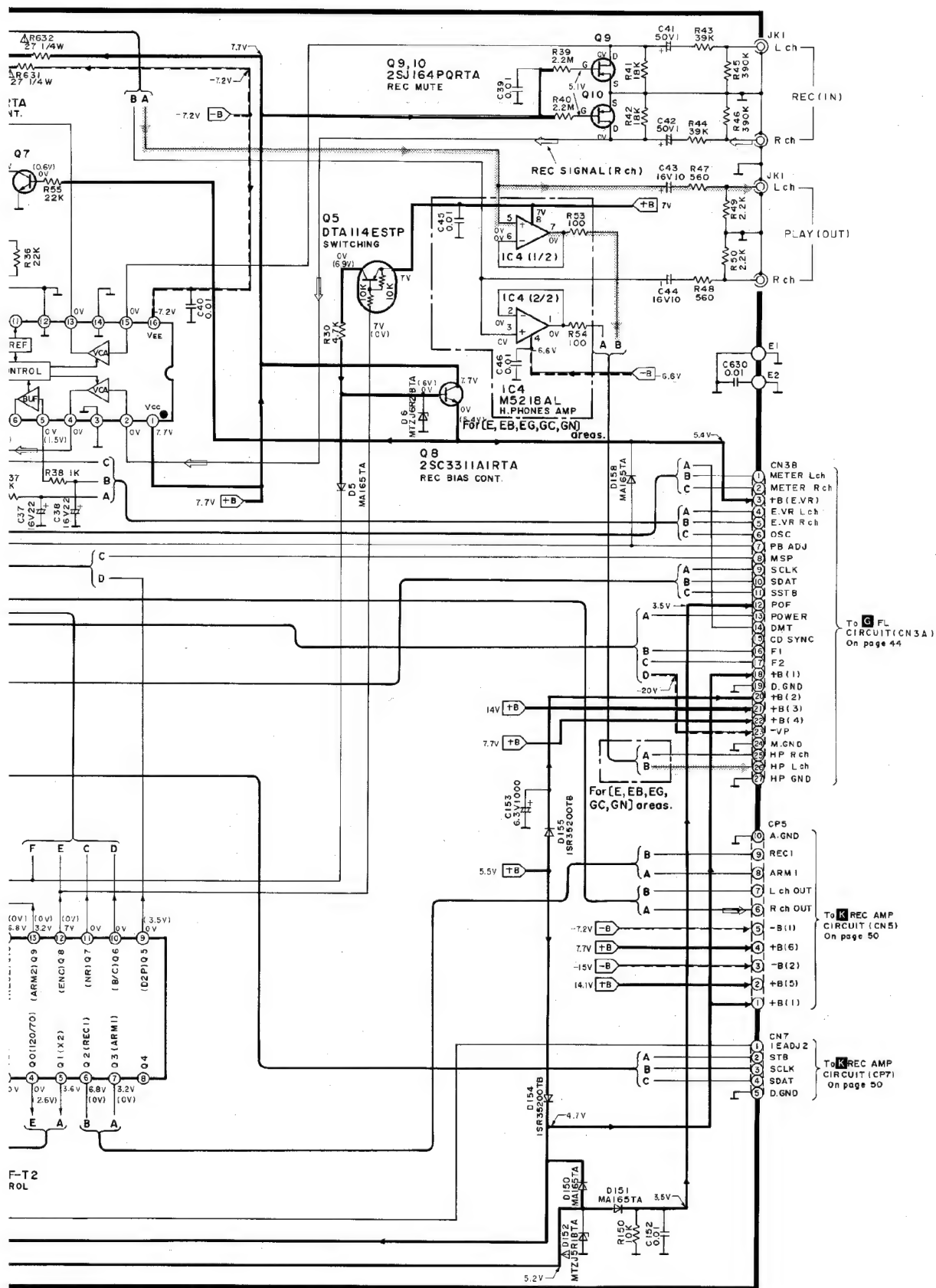
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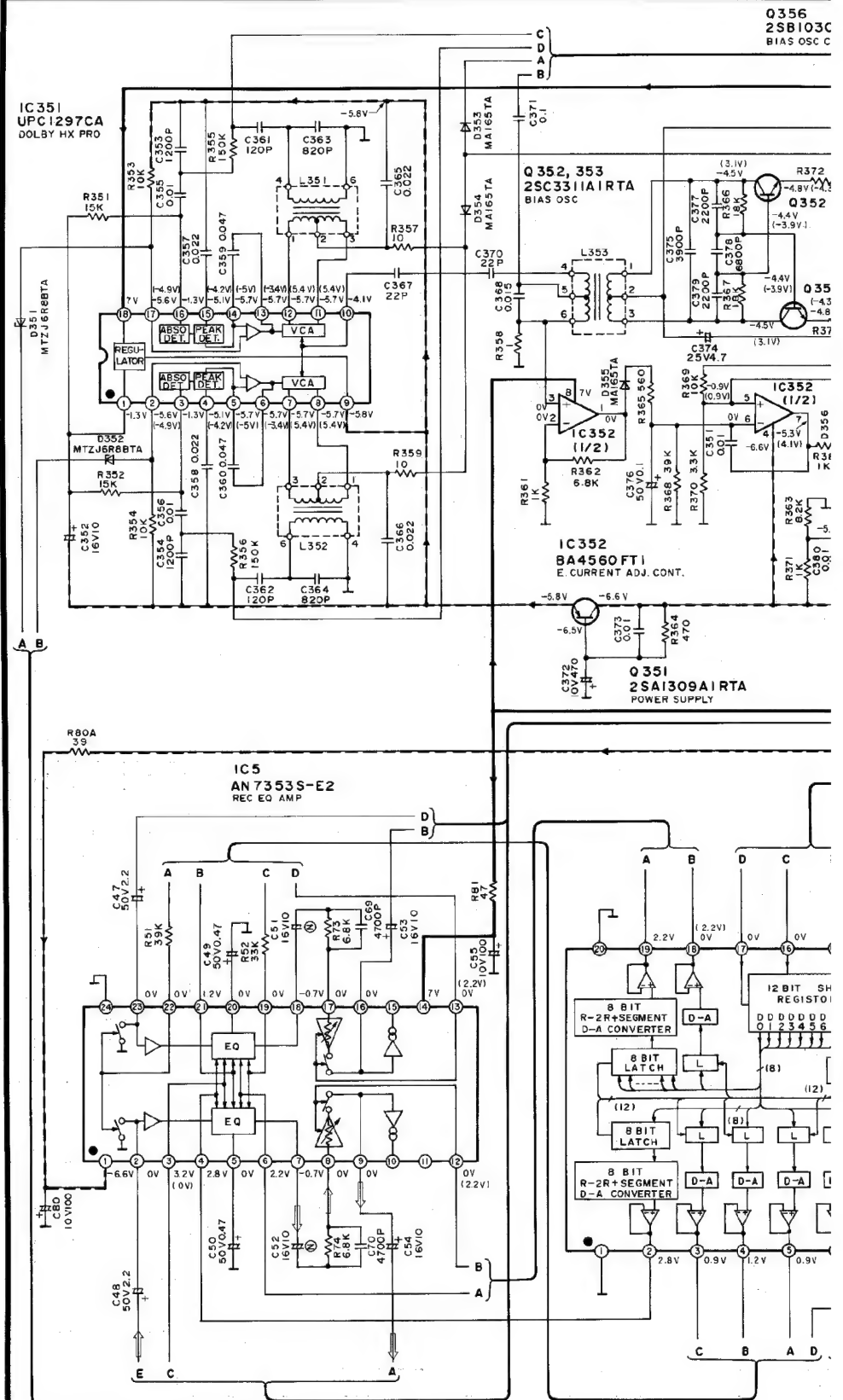
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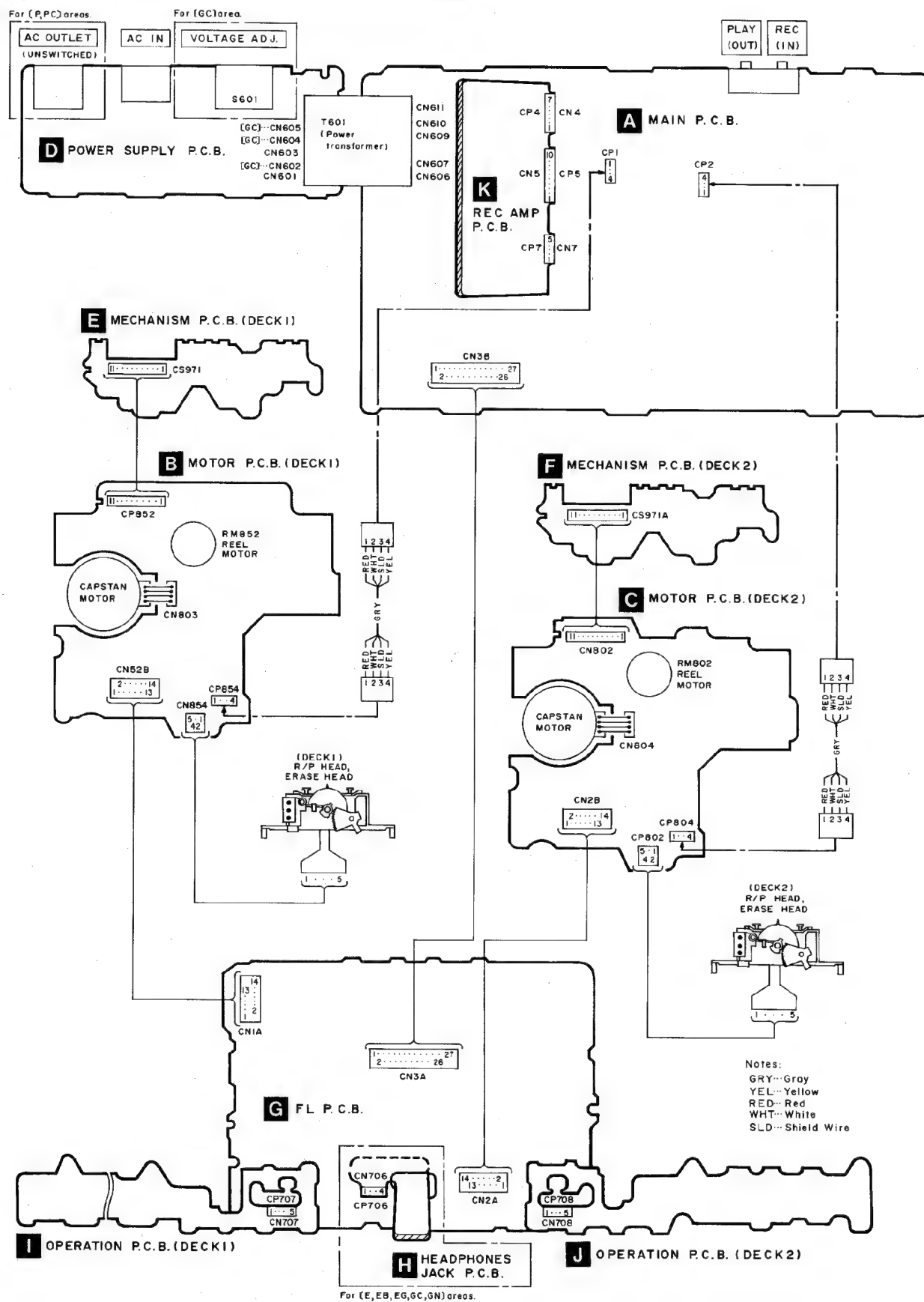


K REC AMP CIRCUIT





WIRING CONNECTION DIAGRAM



REPLACEMENT PARTS LIST

Notes: *Important safety notice:

Components identified by Δ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

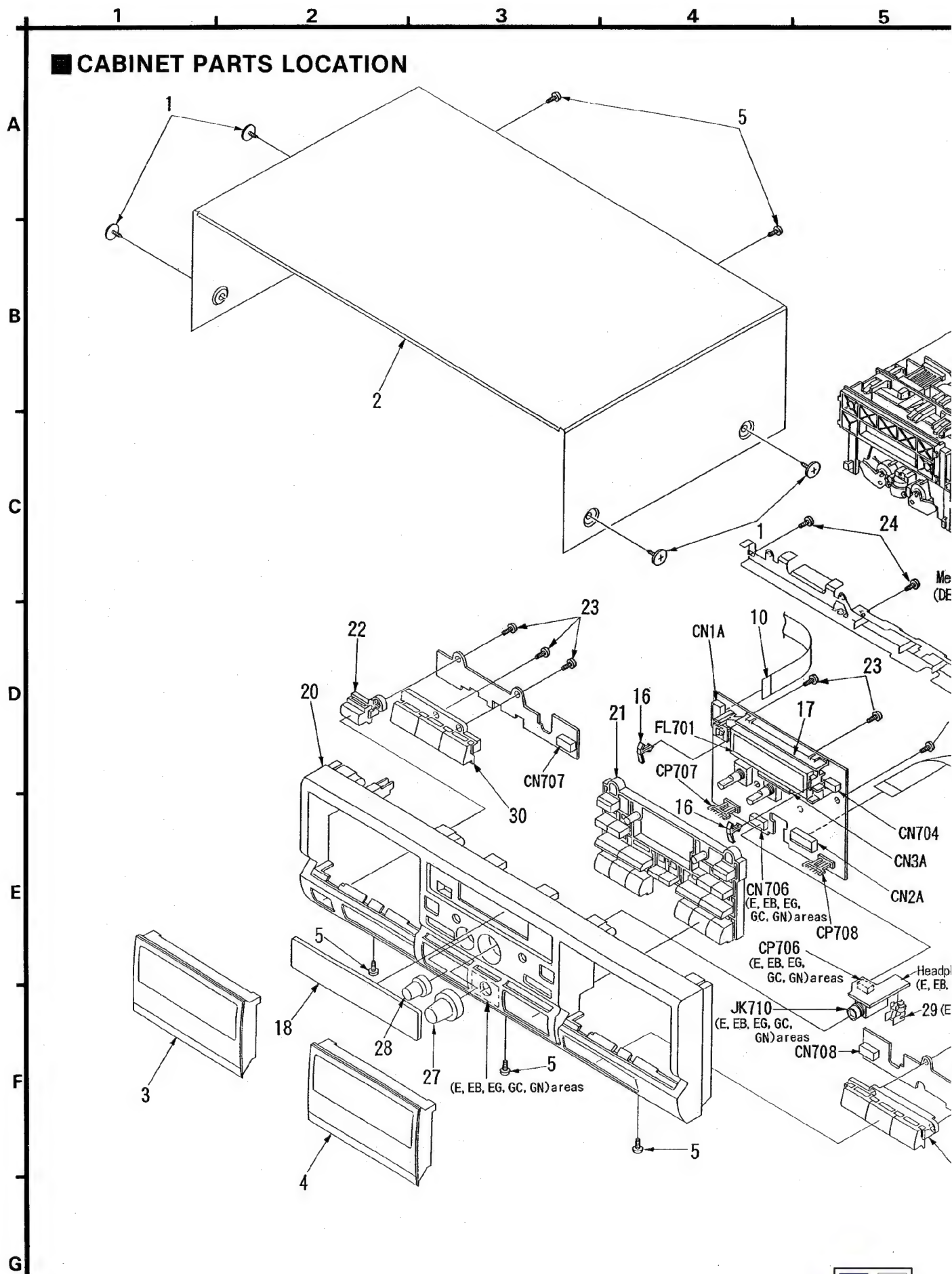
*The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)

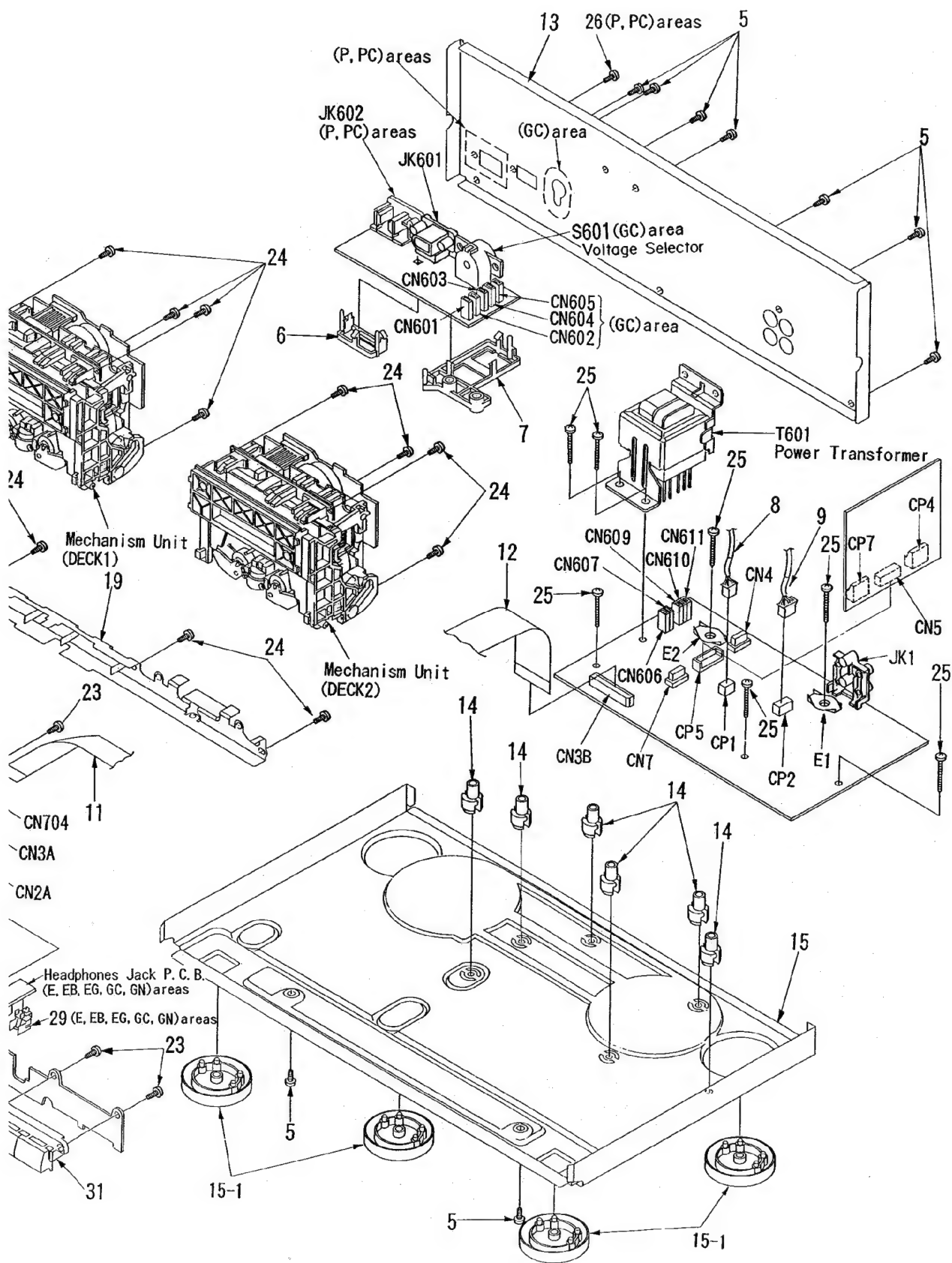
Parts without these indications can be used for all areas.

*The "(SF)" mark denotes the standard part.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS		103	RML0272	SWITCH LEVER	
				104	RXQ0265	HEAD BASE ASS'Y	
1	RHD30035-K	SCREW		104-1	RMB0266-1	SPRING, FOR. /REV. SIDE ROD	
2	RKMD260-K	CABINET		104-2	RKMD0036	FOR. /REV. SIDE ROD	
3	RYFD262G-K	CASSETTE LID(DECK1)		105	RGK0582-K	DRESSING PLATE	
4	RYFD262H-K	CASSETTE LID(DECK2)		106	RXQ0316-1	HEAD BLOCK (R/P)	
5	XTBS3+8JFZ1	SCREW		106-1	RHD17015	AZIMUTH ADJUSTMENT SCREW	
6	RFKNSTR373AK	TRANSFORMER BASE1 ASS'Y		106-2	RMB0352	SPRING, HEAD HOLD	
7	RFKNSTR373BK	TRANSFORMER BASE2 ASS'Y		106-3	RMQ0360A	CONNECTOR HOLDER	
8	REX0580	CONNECTOR ASS'Y (4P)		107	RDV108ZA	BELT	(P, PC)
9	REX0579	CONNECTOR ASS'Y (4P)		107	RDV0015	BELT	(E, EB, EG, GC, GN)
10	REZ0641	FLEXIBLE FLAT CABLE (14P)		108	RDK0019A	MAIN GEAR	
11	REZ0642	FLEXIBLE FLAT CABLE (14P)		109	RMB0261	SPRING, HEAD BASE	
12	REZ0643	FLEXIBLE FLAT CABLE (27P)		110	RMB0262	SPRING, BRAKE ROD	
13	RGR0185A-C	REAR PANEL	(P, PC)	111	RMB0263	SPRING (F)	
13	RGR0185B-G	REAR PANEL	(E, EG)	112	RMB0264	SPRING (R)	
13	RGR0185B-J	REAR PANEL	(EB, GN)	113	RJW1472A	SPRING, TRIGGER LEVER	
13	RGR0185C-B	REAR PANEL	(GC)	114	RML0267A	TRIGGER LEVER	
14	RKQ0089	P. C. B. HOLDER		115	RML0268A	FOR. /REV. SIDE LEVER	
15	RFKJLP0460-K	BOTTOM CHASSIS ASS'Y		116	RMD0091A	BRAKE ROD	
15-1	RKAD053-A	FOOT		117	RMS0398	MOVING IRON CORE	
16	RMNO195	FL HOLDER PIECE		118	RSJ0003	SOLENOID	
17	RMNO259	FL HOLDER		119	RUS6092C	SPRING, TAPE PRESSURE	
18	RKWO326-R	TRANSPARENT PLATE	(P, PC)	120	RXG0036	REEL GEAR	
18	RKWO326B-R	TRANSPARENT PLATE	(E, EB, EG, GC, GN)	121	RXL0106	IDLE GEAR	
19	RMA0766	MECHANISM ANGLE		122	RXP0052	PINCH ROLLER (F) ASS'Y	
20	RFKGSTR575PK	FRONT PANEL ASS'Y	(P, PC)	122-1	RMB0259	SPRING, PINCH ROLLER (F)	
20	RFKGSTR575EK	FRONT PANEL ASS'Y	(E, EB, EG, GC, GN)	123	RXP0053	PINCH ROLLER (R) ASS'Y	
21	RFKNSTR575PK	BUTTON ASS'Y (OPERATION)		123-1	RMB0260	SPRING, PINCH ROLLER (R)	
22	RGU1026-K	BUTTON, POWER		124	RDG0206A-1	LOADING GEAR	
23	XTBS26+8J	SCREW		125	RDG0209A	INTERMEDIATE GEAR	
24	XTB3+10JFZ	SCREW		126	REM0036-1	CAPSTAN MOTOR	
25	XTB3+20JFZ	SCREW		127	REM0043	REEL MOTOR	
26	XTBS3+8JFZ1	SCREW	(P, PC)	128	RHD26013	SCREW	
27	RGWO197-K	KNOB, REC LEVEL		129	RMC0169	SHIELD PLATE	
28	RGWO198-K	KNOB, BALANCE		130	RMQ0314A	SURASUTO SPACER	
29	RMCO234	GND PLATE, H. P. JACK	(E, EB, EG, GC, GN)	131	RXG0037	FRICTION GEAR ASS'Y	
30	RGU1024A-K	BUTTON OPERATION (DECK1)		132	RYF0263-K	CASSETT HOLDER ASS'Y	
31	RGU1025A-K	BUTTON OPERATION (DECK2)		132-1	RUS757ZA	SPRING, TAPE PRESSURE	
		MECHANISM PARTS		133	RMQ0430	RIVET	
101	RXF0045	FLYWHEEL (F) ASS'Y	(P, PC)	134	RMB0269	SPRING, DRIVE LEVER	
101	RXF0040	FLYWHEEL (F) ASS'Y	(E, EB, EG, GC, GN)	135	RML0270A-1	DRIVE LEVER	
102	RXF0046	FLYWHEEL (R) ASS'Y	(P, PC)	136	RMQ0312A	DRIVE RACK	
102	RXF0047	FLYWHEEL (R) ASS'Y	(E, EB, EG, GC, GN)	137	RMB0268	SPRING, HOLDER HOOK	
				138	RML0271A	HOLDER HOOK	
				139	XTW2+6S	SCREW	
				140	RXR0018	REEL TABLE	

■ CABINET PARTS LOCATION





1 2 3 4 5

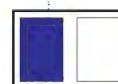
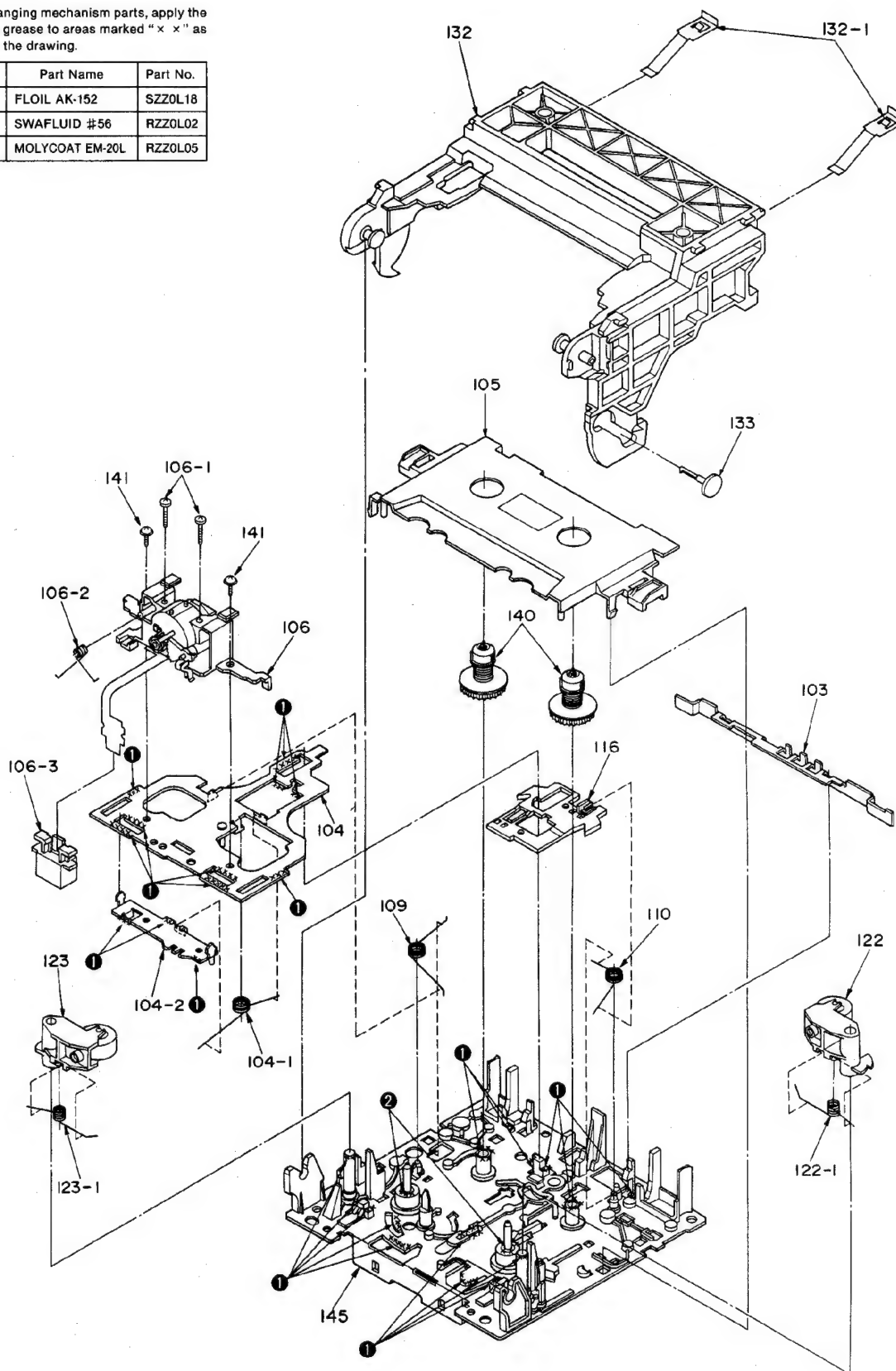
MECHANISM PARTS LOCATION

Note:

When changing mechanism parts, apply the specified grease to areas marked "x x" as shown in the drawing.

Ref. No.	Part Name	Part No.
①	FLOIL AK-152	SZZ0L18
②	SWAFLUID #56	RZZ0L02
③	MOLYCOAT EM-20L	RZZ0L05

(Top view)



REPLACEMENT PARTS LIST

Notes: *Important safety notice:

 Components identified by Δ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

*The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)

Parts without these indications can be used for all areas.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
141	XTW2+5L	SCREW		Q356	ZSB1030AQSTA	TRANSISTOR	
142	XTW2G+12S	SCREW		Q401-406	ZSC3311AIRTA	TRANSISTOR	
143	XTW2G+6L	SCREW		Q601, 602	ZSD1450RTA	TRANSISTOR	
144	RFKJSCM404AK	SUB CHASSIS ASS'Y		Q603	DTC114ESTP	TRANSISTOR	
145	RFKJSCM404BK	CHASSIS ASS'Y		Q604	2SA1309AIRTA	TRANSISTOR	
		INTEGRATED CIRCUIT(S)		Q605	2SD2037EFTA	TRANSISTOR	Δ
				Q606	2SA1309AIRTA	TRANSISTOR	
				Q607	ZSB1357EFTA	TRANSISTOR	Δ
IC1	AN7384N-SG	ELECTRIC VOLUME		Q608	2SD2037EFTA	TRANSISTOR	Δ
IC2	AN7352S-E2	PLAYBACK AMP		Q609	KSB564ACYGTA	TRANSISTOR	Δ
IC3	AN7353S-E2	REQ EQ AMP (DECK2)		Q610	ZSB1357EFTA	TRANSISTOR	
IC4	M5218L	HEADPHONES AMP	(E, EB, EG, GC, GN)	Q611	2SD2037EFTA	TRANSISTOR	
IC5	AN7353S-E2	REQ EQ AMP (DECK1)		Q612-613	2SD2037EFTA	TRANSISTOR	Δ
IC150	M62352FPE1	12ch D/A CONVERTER (DECK1)		Q655	2SD2037EFTA	TRANSISTOR	
IC151	M62352FPE1	12ch D/A CONVERTER (DECK2)		Q656	ZSB1357EFTA	TRANSISTOR	
IC152	XLU2040F-T1	DATA CONTROL		Q701, 702	ZSC3311AIRTA	TRANSISTOR	
IC301	UPC1297CA	DOLBY HX PRO (DECK2)		Q703-706	DTC114YSTP	TRANSISTOR	
IC302	SVIBA4560FT1	E. CURRENT ADJ. CONT. (DECK2)		Q707	DTC114ESTP	TRANSISTOR	(E, EB, EG, GC, GN)
IC351	UPC1297CA	DOLBY HX PRO (DECK1)		Q709	ZSC3311AIRTA	TRANSISTOR	(E, EB, EG, GC, GN)
IC352	SVIBA4560FT1	E. CURRENT ADJ. CONT. (DECK1)		Q802	2SA1309AIRTA	TRANSISTOR (DECK2)	
IC401	AN7354SC-E2	DOLBY B/C NR		Q804	ZSD1450RTA	TRANSISTOR (DECK2)	
IC701	M38123M4101F	MICROCOMPUTER		Q852	2SA1309AIRTA	TRANSISTOR (DECK1)	
IC702	XLJ93LC46AFE	EEPROM		Q854	ZSD1450RTA	TRANSISTOR (DECK1)	
IC703	MC14052BFR2	ANALOG MULTIPLEXER				DIODE(S)	
IC802	BA6265FP-E1	MECHANISM CONTROL (DECK2)					
IC852	BA6265FP-E1	MECHANISM CONTROL (DECK1)					
IC971	RVSGP2S24BC	PHOTO INTERRUPTER (DECK1)		D1-4	MA167	DIODE	
IC971A	RVSGP2S24BC	PHOTO INTERRUPTER (DECK2)		D5	MA165	DIODE	
IC972	RVSGP2S24BC	PHOTO INTERRUPTER (DECK1)		D6	MTZJ6R2BTA	DIODE	
IC972A	RVSGP2S24BC	PHOTO INTERRUPTER (DECK2)		D150, 151	MA165	DIODE	
		TRANSISTOR(S)		D152	MTZJ5R1BTA	DIODE	Δ
				D154, 155	1SR35200TB	DIODE	
				D158, 159	MA165	DIODE	
Q1-4	2SJ164PQRTA	TRANSISTOR		D301, 302	MTZJ6R8BTA	DIODE	
Q5	DTA114ESTP	TRANSISTOR		D303-307	MA165	DIODE	
Q6-8	ZSC3311AIRTA	TRANSISTOR		D351, 352	MTZJ6R8BTA	DIODE	
Q9	2SJ164PQRTA	TRANSISTOR		D353-357	MA165	DIODE	
Q10	2SJ164PQRTA	TRANSISTOR		D401, 402	MA165	DIODE	
Q301	2SA1309AIRTA	TRANSISTOR		D601, 602	MA165	DIODE	Δ
Q302, 303	ZSC3311AIRTA	TRANSISTOR		D603-610	1SR35200TB	DIODE	Δ
Q304	ZSB1357EFTA	TRANSISTOR		D611	MA165	DIODE	
Q305	ZSD2037EFTA	TRANSISTOR		D613	MTZJ8R2CTA	DIODE	Δ
Q306	ZSB1030AQSTA	TRANSISTOR		D614	MTZJ5R1BTA	DIODE	Δ
Q351	2SA1309AIRTA	TRANSISTOR		D615	MTZJ20DTA	DIODE	Δ
Q352, 353	ZSC3311AIRTA	TRANSISTOR		D616	MA165	DIODE	
Q354	ZSB1357EFTA	TRANSISTOR		D620	MA29WA	DIODE	
Q355	ZSD2037EFTA	TRANSISTOR		D701	LN28RPX	L. E. D.	(E, EB, EG, GC, GN)

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
D802	MA188TA	DIODE(DECK2)		S707	EVQ21405R	REC (DECK2)	
D804	MA723TA	DIODE(DECK2)		S708	EVQ21405R	PAUSE (DECK2)	
D852	MA188TA	DIODE(DECK1)		S709	EVQ21405R	AUTO REC MUTE (DECK2)	
D854	MA723TA	DIODE(DECK1)		S710	EVQ21405R	ATC (DECK2)	
D971	RVD1SS133TA	DIODE(DECK1)		S711	EVQ21405R	COUNTER1 RESET	
D971A	RVD1SS133TA	DIODE(DECK2)		S712	EVQ21405R	POWER	
				S713	EVQ21405R	STOP (DECK1)	
		VARIABLE RESISTOR(S)		S714	EVQ21405R	F-SIDE PLAYBACK (DECK1)	
				S715	EVQ21405R	R-SIDE PLAYBACK (DECK1)	
VR702	EVJ02FFA7B15	REC LEVEL CONTROL		S716	EVQ21405R	F. F. SERCH<TPS> (DECK1)	
VR703	EVJ02SFA7G15	BALANCE CONTROL		S717	EVQ21405R	REW, SERCH<TPS> (DECK1)	
VR802	EVNDCAA03B53	TAPE SPEED ADJ. (DECK2)		S718	EVQ21405R	OPEN/CLOSE (DECK1)	
VR803	EVNDCAA03B53	TAPE SPEED ADJ. (DECK2)		S719	EVQ21405R	REC (DECK1)	
VR853	EVNDCAA03B53	TAPE SPEED ADJ. (DECK1)		S720	EVQ21405R	PAUSE (DECK1)	
				S721	EVQ21405R	AUTO REC MUTE (DECK1)	
		COIL (S)		S722	EVQ21405R	ATC (DECK1)	
				S723	EVQ21405R	COUNTER2 RESET	
L1-4	SLQX303-1KT	COIL		S724	EVQ21405R	DOLBY NR (B. C)	
L301, 302	SL09B1-Z	COIL		S725	EVQ21405R	SYNCHRO START	
L303	SL09B4-K	COIL (HX PRO ADJ.) (DECK2)		S726	EVQ21405R	SPEED (X1, X2)	
L351, 352	SL09B1-Z	COIL		S727	EVQ21405R	REVERSE MODE	
L353	SL09B4-K	COIL (HX PRO ADJ.) (DECK1)		S803	RSHIA024-U	OPEN DETECTION (DECK2)	
L401, 402	RLM2B006T-K	COIL		S804	RSHIA024-U	CLOSE DETECTION (DECK2)	
				S853	RSHIA024-U	OPEN DETECTION (DECK1)	
		TRANSFORMER (S)		S854	RSHIA024-U	CLOSE DETECTION (DECK1)	
				S971	RSHIA018-U	MODE (DECK1)	
T601	RTP1K4C016-V	POWER TRANSFORMER	(P, PC) △	S971A	RSHIA018-U	MODE (DECK2)	
T601	RTP1K4B019-V	POWER TRANSFORMER	(E, EB, EG, GN) △	S972	RSHIA019-U	HALF (DECK1)	
T601	RTP1K4E028-V	POWER TRANSFORMER	(GC) △	S972A	RSHIA019-U	HALF (DECK2)	
				S973	RSHIA019-U	ATS (DECK1)	
		COMPONENT COMBINATION(S)		S973A	RSHIA019-U	ATS (DECK2)	
				S974	RSHIA019-U	R REC. INH. (DECK1)	
Z701	RCDHC-278N	REMOTE SENSOR		S974A	RSHIA019-U	R REC. INH. (DECK2)	
Z702	EF0EC6004T4	CERAMIC OSCILLATOR (6MHz)		S975	RSHIA019-U	F. REC. INH. (DECK1)	
Z802	EXBF7L355SYV	COMBINATION PART (DECK2)		S975A	RSHIA019-U	F. REC. INH. (DECK2)	
Z852	EXBF7L355SYV	COMBINATION PART (DECK1)		S976	RSHIA019-U	ATS (DECK1)	
Z971	EXBF6L306SYV	COMBINATION PART (DECK1)		S976A	RSHIA019-U	ATS (DECK2)	
Z971A	EXBF6L306SYV	COMBINATION PART (DECK2)					
						CONNECTOR (S) AND SOCKET (S)	
		DISPLAY TUBE (S)					
FL701	RSL0176-F	DISPLAY TUBE		CN1A	RJS1A6214-1	CONNECTOR (14P)	
				CN2A	RJS1A6214-1	CONNECTOR (14P)	
		SWITCH (ES)		CN2B	RJS1A6714	CONNECTOR (14P) (DECK2)	
				CN3A	RJS1A6227-1	CONNECTOR (27P)	
S601	SSR187-1	VOLTAGE SELECTOR	(GC) △	CN3B	RJS1A6827	CONNECTOR (27P)	
S701	EVQ21405R	STOP (DECK2)		CN4	RJU060G07T	SOCKET (7P)	
S702	EVQ21405R	F-SIDE PLAYBACK (DECK2)		CN5	RJU057W010	SOCKET (10P)	
S703	EVQ21405R	R-SIDE PLAYBACK (DECK2)		CN7	RJU060G05T	SOCKET (5P)	
S704	EVQ21405R	F. F. SERCH<TPS> (DECK2)		CN52B	RJS1A6714	CONNECTOR (14P) (DECK1)	
S705	EVQ21405R	REW, SERCH<TPS> (DECK2)		CN601	RJS1A1101T1	CONNECTOR (1P)	
S706	EVQ21405R	OPEN/CLOSE (DECK2)		CN602	RJS1A1101T1	CONNECTOR (1P)	(GC)
				CN603	RJS1A1101T1	CONNECTOR (1P)	

Ref.No.	Part No.	Part Name & Description	Remarks
CN604, 605	RJS1A1101T1	CONNECTOR(1P)	(GC)
CN606, 607	RJS1A1101T1	CONNECTOR(1P)	
CN609-611	RJS1A1101T1	CONNECTOR(1P)	
CN704	SJS50581BB	SOCKET(5P)	
CN706	RJU057W004	SOCKET(4P)	(E, EB, EG, GC, GN)
CN707, 708	RJU066H05	SOCKET(5P)	
CN802	RJT071H11A	CONNECTOR(11P) (DECK2)	
CN803	RJR0113	MOTOR CONNECTOR(4P) (DECK1)	
CN804	RJR0113	MOTOR CONNECTOR(4P) (DECK2)	
CN854	RJS2A0205-2S	SOCKET(5P) (DECK1)	
CP1, 2	SJTD413	CONNECTOR(4P)	
CP4	RJT060R07	CONNECTOR(7P)	
CP5	RJT057W010-1	CONNECTOR(10P)	
CP7	RJT060R05	CONNECTOR(5P)	
CP706	RJT057W004-1	CONNECTOR(4P)	(E, EB, EG, GC, GN)
CP707, 708	RJT066H05A	CONNECTOR(5P)	
CP802	RJS2A0205-2S	CONNECTOR(5P) (DECK2)	
CP804	RJP4G17ZA	CONNECTOR(4P) (DECK2)	
CP852	RJT071H11A	CONNECTOR(11P) (DECK1)	
CP854	RJP4G17ZA	CONNECTOR(4P) (DECK1)	
CS971	RJU071H11M	SOCKET(11P) (DECK1)	
CS971A	RJU071H11M	SOCKET(11P) (DECK2)	
		JACK(S)	
JK1	SJF3069N	TERMINAL BOARD:REC/PLAY	
JK601	SJSD16	AC INLET	(P, PC, GN) Δ
JK601	SJS9236	AC INLET	(E, EB, EG, GC) Δ
JK602	RJS1A1602-1S	AC OUTLET	(P, PC) Δ
JK710	SJJ146B	HEADPHONES JACK	(E, EB, EG, GC, GN)
		GND PART(S)	
E1, 2	SNE1004-2	GND PLATE	

RESISTORS AND CAPACITORS

Notes : * Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
 * Resistance values are in ohms, unless specified otherwise, 1 K=1,000 (OHM), 1 M=1,000 k (OHM)

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
		RESISTORS						
R1, 2	ERDS2TJ225	1/4W 2. 2M	R150	ERDS2TJ103	1/4W 10K	R378	ERDS2TJ222	1/4W 2. 2K
R3, 4	ERDS2TJ104	1/4W 100K	R173	ERDS2TJ221	1/4W 220	R379	ERDS2TJ473	1/4W 47K
R5, 6	ERDS2TJ225	1/4W 2. 2M	R174-176	ERDS2TJ103	1/4W 10K	R381	ERDS2TJ120T	1/4W 12
R7, 8	ERDS2TJ104	1/4W 100K	R301, 302	ERDS2TJ153	1/4W 15K	R382	ERD2FCVG390T	1/4W 39 Δ
R9	ERDS2TJ225	1/4W 2. 2M	R303, 304	ERDS2TJ103	1/4W 10K	R383	ERDS2TJ102	1/4W 1K
R10	ERDS2TJ225	1/4W 2. 2M	R305, 306	ERDS2TJ154	1/4W 150K	R384	ERDS2TJ182	1/4W 1. 8K
R11-14	ERDS2TJ101	1/4W 100	R307	ERDS2TJ100	1/4W 10	R385	ERDS2TJ1R0	1/4W 1. 0
R15, 16	ERDS2EJ121	1/4W 120	R308	ERDS2TJ1R0	1/4W 1. 0	R401-404	ERDS2TJ684	1/4W 680K
R17, 18	ERDS2TJ474	1/4W 470K	R309	ERDS2TJ100	1/4W 10	R405, 406	ERDS2TJ152	1/4W 1. 5K
R19, 20	ERDS2TJ103	1/4W 10K	R310	ERD2FCVG390T	1/4W 39 Δ	R407, 408	ERDS2TJ332	1/4W 3. 3K
R21, 22	ERDS2TJ273	1/4W 27K	R311	ERDS2TJ102	1/4W 1K	R409, 410	ERDS2TJ223	1/4W 22K
R23, 24	ERDS2TJ183T	1/4W 18K	R312	ERDS2TJ682T	1/4W 6. 8K	R411, 412	ERDS2TJ473	1/4W 47K
R25, 26	ERDS2TJ103	1/4W 10K	R313	ERDS2TJ822	1/4W 8. 2K	R413, 414	ERDS2TJ104	1/4W 100K
R27, 28	ERDS2TJ101	1/4W 100	R314	ERDS2TJ471	1/4W 470	R601-604	ERDS2TJ472	1/4W 4. 7K
R29	ERDS2TJ332	1/4W 3. 3K	R315	ERDS2TJ561	1/4W 560	R605	ERDS2TJ1R0	1/4W 1. 0
R30	ERDS2TJ472	1/4W 4. 7K	R316, 317	ERDS2TJ183T	1/4W 18K	R606, 607	ERDS2TJ472	1/4W 4. 7K
R31, 32	ERDS2TJ103	1/4W 10K	R318	ERDS2TJ393	1/4W 39K	R608	ERDS2TJ103	1/4W 10K
R33, 34	ERDS2TJ823T	1/4W 82K	R319	ERDS2TJ103	1/4W 10K	R609	ERDS2TJ102	1/4W 1K
R35	ERDS2TJ124T	1/4W 120K	R320	ERDS2TJ332	1/4W 3. 3K	R610	ERDS2TJ152	1/4W 1. 5K
R36	ERDS2TJ223	1/4W 22K	R321	ERDS2TJ102	1/4W 1K	R611	ERDS2TJ101	1/4W 100
R37, 38	ERDS2TJ102	1/4W 1K	R322, 323	ERDS2TJ100	1/4W 10	R612	ERDS2TJ562	1/4W 5. 6K
R39, 40	ERDS2TJ225	1/4W 2. 2M	R324	ERDS2TJ122	1/4W 1. 2K	R613	ERDS2TJ682T	1/4W 6. 8K
R41, 42	ERDS2TJ183T	1/4W 18K	R325	ERDS2TJ120T	1/4W 12	R614	ERDS2TJ222	1/4W 2. 2K
R43, 44	ERDS2TJ393	1/4W 39K	R327	ERD2FCVG390T	1/4W 39 Δ	R615	ERDS2TJ101	1/4W 100
R45, 46	ERDS2TJ394	1/4W 390K	R328	ERDS2TJ222	1/4W 2. 2K	R616	ERDS2TJ222	1/4W 2. 2K
R47, 48	ERDS2TJ561	1/4W 560	R329	ERDS2TJ473	1/4W 47K	R617, 618	ERDS2TJ101	1/4W 100
R49, 50	ERDS2TJ222	1/4W 2. 2K	R330	ERDS2TJ120T	1/4W 12 Δ	R619	ERDS2TJ331	1/4W 330
R51	ERDS2TJ393	1/4W 39K	R332	ERDS2TJ102	1/4W 1K	R620, 621	ERDS2TJ101	1/4W 100
R52	ERDS2TJ333	1/4W 33K	R334	ERDS2TJ182	1/4W 1. 8K	R622, 623	ERD2FCVJ6R8T	1/4W 6. 8 Δ
R53, 54	ERDS2TJ101	1/4W 100 (E, EB, EG, GC, GN)	R351, 352	ERDS2TJ153	1/4W 15K	R624	ERD2FCVG180T	1/4W 18 Δ
R55	ERDS2TJ223	1/4W 22K	R353, 354	ERDS2TJ103	1/4W 10K	R625, 626	ERD2FCVG100T	1/4W 10 Δ
R56	ERDS2TJ332	1/4W 3. 3K	R355, 356	ERDS2TJ154	1/4W 150K	R627	ERD2FCVJ6R8T	1/4W 6. 8 Δ
R57, 58	ERDS2TJ103	1/4W 10K	R357	ERDS2TJ100	1/4W 10	R628	ERDS2TJ101	1/4W 100
R59	ERDS2TJ393	1/4W 39K	R358	ERDS2TJ1R0	1/4W 1. 0	R630	ERD2FCVJ6R8T	1/4W 6. 8 Δ
R60	ERDS2TJ333	1/4W 33K	R359	ERDS2TJ100	1/4W 10	R631, 632	ERD2FCVG270T	1/4W 27 Δ
R61, 62	ERDS2TJ562	1/4W 5. 6K	R360	ERDS2TJ120T	1/4W 12	R633	ERD2FCVJ6R8T	1/4W 6. 8 Δ
R63, 64	ERDS2TJ222	1/4W 2. 2K	R361	ERDS2TJ102	1/4W 1K	R634	ERDS2TJ101	1/4W 100
R67, 68	ERDS2TJ103	1/4W 10K	R362	ERDS2TJ682T	1/4W 6. 8K	R635	ERDS2TJ561	1/4W 560
R69, 70	ERDS2TJ682T	1/4W 6. 8K	R363	ERDS2TJ822	1/4W 8. 2K	R651, 652	ERQ16NKWR10E	1/6W 0. 1 (E, EB, EG, GC, GN) Δ
R71, 72	ERDS2TJ103	1/4W 10K	R364	ERDS2TJ471	1/4W 470	R653, 654	ERDS2TJR47T	1/4W 0. 47
R73, 74	ERDS2TJ682T	1/4W 6. 8K	R365	ERDS2TJ561	1/4W 560	R655	ERD2FCVJ6R8T	1/4W 6. 8 Δ
R75	ERDS2TJ221	1/4W 220	R366, 367	ERDS2TJ183T	1/4W 18K	R655A	ERD2FCVG180T	1/4W 18 Δ
R80	ERDS2TJ561	1/4W 560	R368	ERDS2TJ393	1/4W 39K	R656, 657	ERDS2TJ101	1/4W 100
R80A	ERDS2TJ390	1/4W 39	R369	ERDS2TJ103	1/4W 10K	R658	ERD2FCVG100T	1/4W 10 Δ
R81	ERDS2TJ470	1/4W 47	R370	ERDS2TJ332	1/4W 3. 3K	R701, 702	ERDS2TJ331	1/4W 330
			R371	ERDS2TJ102	1/4W 1K	R733	ERDS2TJ821	1/4W 820
			R372, 373	ERDS2TJ100	1/4W 10	R734	ERDS2TJ102	1/4W 1K
			R374	ERDS2TJ122	1/4W 1. 2K	R735	ERDS2TJ122	1/4W 1. 2K
			R375	ERD2FCVG390T	1/4W 39 Δ			

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
R745	ERDS2TJ821	1/4W 820	C49, 50	ECEA1HKAR47B	50V 0.47U	C371	ECQV1H104JM3	50V 0.1U
R746	ERDS2TJ102	1/4W 1K	C51, 52	ECEA1CN100SB	16V 10U	C372	ECA1AM471B	10V 470U
R747	ERDS2TJ122	1/4W 1.2K	C53, 54	ECEA1CKA100B	16V 10U	C373	ECBT1E103ZF	25V 0.01U
R762	ERDS2TJ151	1/4W 150 (E, EB, EG, GC, GN)	C55	ECEA1AKA101B	10V 100U	C374	ECEA1EKA4R7B	25V 4.7U
R802	ERDS2TJ2R2T	1/4W 2.2	C57, 58	ECBT1H561KB5	50V 560P	C375	ECKR1H392KB5	50V 3900P
R806	ERDS2TJ123	1/4W 12K	C59, 60	ECKR2H121KB5	500V 120P	C376	ECEA1HKA0R1B	50V 0.1U
R807	ERDS2TJ103	1/4W 10K	C61, 62	ECBT1H561KB5	50V 560P	C377	ECKW1H222KB5	50V 2200P
R808	ERDS2TJ392T	1/4W 3.9K	C63	ECEA1CKA100B	16V 10U	C378	ECKD1H682KB	50V 6800P
R812	ERDS2TJ474	1/4W 470K	C64	ECEA1HKA010B	50V 1U	C379	ECKW1H222KB5	50V 2200P
R820	ERDS2TJ271	1/4W 270	C65, 66	ECBT1E103ZF	25V 0.01U	C380	ECBT1E103ZF	25V 0.01U
R852	ERDS2TJ2R2T	1/4W 2.2	C67-70	ECBT1C472KR5	16V 4700P	C382	ECBT1E103ZF	25V 0.01U
R856	ERDS2TJ153	1/4W 15K	C71	ECEA0JKA221B	6.3V 220U	C401, 402	ECBT1C222KR5	16V 2200P
R857	ERDS2TJ103	1/4W 10K	C80	ECEA1AKA101B	10V 100U	C403, 404	ECBT1C182KR5	16V 1800P
R858	ERDS2TJ392T	1/4W 3.9K	C151	ECEA0JKA221B	6.3V 220U	C405, 406	ECBT1C222KR5	16V 2200P
R862	ERDS2TJ474	1/4W 470K	C152	ECBT1E103ZF	25V 0.01U	C407, 408	ECQV1H154JM3	50V 0.15U
R870	ERDS2TJ271	1/4W 270	C153	ECA0JM102B	6.3V 1000U	C409, 410	ECEA1HKA010B	50V 1U
R971	ERDS2TJ221	1/4W 220 (DECK1)	C154	ECBT1H331KB5	50V 330P	C411, 412	ECEA1HKA2R2B	50V 2.2U
R971A	ERDS2TJ221	1/4W 220 (DECK2)	C175	ECBT1H121KB5	50V 120P	C413, 414	ECEA1HKA010B	50V 1U
R973	ERDS2TJ393	1/4W 39K (DECK1)	C301	ECBT1E103ZF	25V 0.01U	C415, 416	ECQB1H152JF3	50V 1500P
R973A	ERDS2TJ393	1/4W 39K (DECK2)	C302	ECEA1CKA100B	16V 10U	C417, 418	ECEA1HKAR47B	50V 0.47U
R974	ERDS2TJ393	1/4W 39K (DECK1)	C303, 304	ECBT1C122KR5	16V 1200P	C419, 420	ECQB1H152JF3	50V 1500P
R974A	ERDS2TJ393	1/4W 39K (DECK2)	C305, 306	ECQB1H103JF3	50V 0.01U	C421, 422	ECEA1HKAR47B	50V 0.47U
		CAPACITORS	C307, 308	ECQB1H223JF3	50V 0.022U	C423, 424	ECBT1H820KB5	50V 82P
			C309, 310	ECQV1H473JM3	50V 0.047U	C425, 426	ECBT1C682KR5	16V 6800P
			C311, 312	ECBT1H121KB5	50V 120P	C427	ECEA1CKA100B	16V 10U
			C313, 314	ECKR2H821KB5	500V 820P	C601	ECEA1EU222B	25V 2200U
C1, 2	ECBT1H102KB5	50V 1000P	C315, 316	ECBT1E223ZF	25V 0.022U	C602	ECA1EM221B	25V 220U
C3, 4	ECBT1H561KB5	50V 560P	C317	ECBT1H220J5	50V 22P	C603, 604	ECA1EM102B	25V 1000U Δ
C5, 6	ECBT1H102KB5	50V 1000P	C318	ECQP1153JZ	100V 0.015U	C605	ECKR2H682PE	500V 6800P
C7, 8	ECBA1H681KB5	50V 680P	C320	ECBT1H220J5	50V 22P	C606	ECBT1E103ZF	25V 0.01U
C9	ECEA1HKA0R1B	50V 0.1U	C322	ECA1AM471B	10V 470U	C607	ECEA1AKA221B	10V 220U
C10	ECEA1HKA0R1B	50V 0.1U	C323	ECBT1E103ZF	25V 0.01U	C608-614	ECBT1E103ZF	25V 0.01U
C11, 12	ECBT1E103ZF	25V 0.01U	C324	ECEA1EKA4R7B	25V 4.7U	C615	ECEA1CKA100B	16V 10U
C13, 14	ECQB1H682JF3	50V 6800P	C325	ECKR1H392KB5	50V 3900P	C616, 617	ECA1AM102B	10V 1000U
C15, 16	ECEA1AKA101B	10V 100U	C326	ECEA1HKA0R1B	50V 0.1U	C618	ECA1HM221B	50V 220U Δ
C17	ECEA1HKAR47B	50V 0.47U	C327	ECKW1H222KB5	50V 2200P	C619	ECBT1E103ZF	25V 0.01U
C18	ECEA1CKA100B	16V 10U	C328	ECKD1H682KB	50V 6800P	C630	ECBT1E103ZF	25V 0.01U
C19, 20	ECKR2H121KB5	500V 120P	C329	ECKW1H222KB5	50V 2200P	C655, 656	ECBT1E103ZF	25V 0.01U
C21, 22	ECEA1CKA100B	16V 10U	C330	ECBT1E103ZF	25V 0.01U	C700, 701	ECEA1CKA100B	16V 10U
C23, 24	ECEA1HKA2R2B	50V 2.2U	C332	ECBT1E103ZF	25V 0.01U	C702	ECBT1E103ZF	25V 0.01U
C25, 26	ECEA1HKAR47B	50V 0.47U	C351	ECBT1E103ZF	25V 0.01U	C703, 704	ECEA1CKA100B	16V 10U
C27, 28	ECEA1CKN100B	16V 10U	C352	ECEA1CKA100B	16V 10U	C705	ECEA1EKA4R7B	25V 4.7U
C29-32	ECEA1CKA100B	16V 10U	C353, 354	ECBT1C122KR5	16V 1200P	C706, 707	ECBT1E103ZF	50V 0.01U (E, EB, EG, GC, GN)
C33, 34	ECEA1CKA220B	16V 22U	C355, 356	ECQB1H103JF3	50V 0.01U			
C35	ECKR1H392KB5	50V 3900P	C357, 358	ECQB1H223JF3	50V 0.022U	C708	ECBT1H104ZF5	50V 0.1U (E, EB, EG, GC, GN)
C37, 38	ECEA1CKA220B	16V 22U	C359, 360	ECQV1H473JM3	50V 0.047U			
C39, 40	ECBT1E103ZF	25V 0.01U	C361, 362	ECBT1H121KB5	50V 120P	C710	ECEA1HKA010B	50V 1U
C41, 42	ECEA1HKA010B	50V 1U	C363, 364	ECKR2H821KB5	500V 820P	C711	ECBT1E103ZF	25V 0.01U
C43, 44	ECEA1CKA100B	16V 10U	C365, 366	ECBT1E223ZF	25V 0.022U	C713	ECBT1E103ZF	25V 0.01U
C45, 46	ECBT1E103ZF	25V 0.01U (E, EB, EG, GC, GN)	C367	ECBT1H220J5	50V 22P	C802	ECBT1E223ZF	25V 0.022U
			C368	ECQP1153JZ	100V 0.015U	C806	ECBT1H104ZF5	50V 0.1U
C47, 48	ECEA1HKA2R2B	50V 2.2U	C370	ECBT1H220J5	50V 22P	C807	ECEA1EKA101B	25V 100U

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
C808	ECEA1AKA101B	10V 100U	C852	ECBT1E223ZF	25V 0.022U	C865, 866	ECBT1H101KB5	50V 100P
C814	ECBT1H1042F5	50V 0.1U	C856	ECBT1H1042F5	50V 0.1U	C868	ECBT1H101KB5	50V 100P
C815, 816	ECBT1H101KB5	50V 100P	C857	ECEA1EKA101B	25V 100U	C872	ECEA0JKA221B	6.3V 220U
C818	ECBT1H101KB5	50V 100P	C858	ECEA1AKA101B	10V 100U			
C822	ECEA0JKA221B	6.3V 220U	C864	ECBT1H1042F5	50V 0.1U			

REPLACEMENT PARTS LIST

Notes: *Important safety notice:

Components identified by Δ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

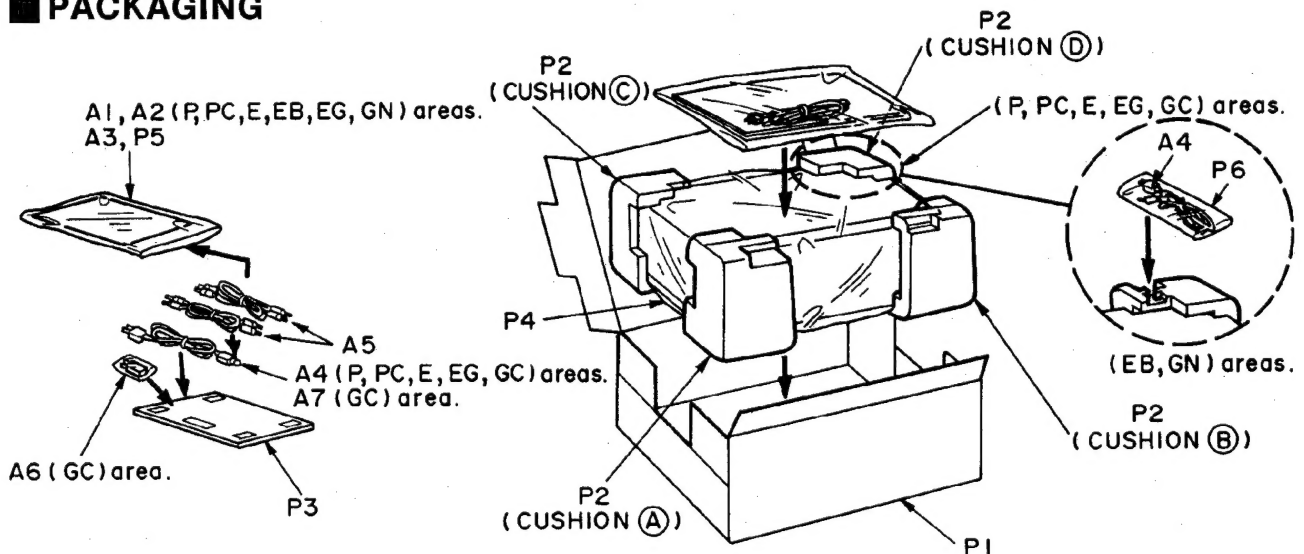
*The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)

Parts without these indications can be used for all areas.

*The "(SF)" mark denotes the standard part.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIAL		A1	RFKSSIR575E	INSTRUCTION MANUAL ASS'Y	(E)
				A1	RQT2242-B	INSTRUCTION MANUAL	(EB, GN)
				A1	RFKSSIR575EG	INSTRUCTION MANUAL ASS'Y	(EG)
				A1	RFKSSIR575GC	INSTRUCTION MANUAL ASS'Y	(GC)
P1	RPG1924	PACKING CASE	(P, PC, GC)	A2	RQA0085	WARRANTY CARD	(P)
P1	RPG1925	PACKING CASE	(E, EG)	A2	SQX7183	WARRANTY CARD	(PC)
P1	RPG1926	PACKING CASE	(EB)	A2	RQA0013	WARRANTY CARD	(E, EB, EG)
P1	RPG2197	PACKING CASE	(GN)	A2	RQX7433ZA	WARRANTY CARD	(GN)
P2	RPN0824	CUSHION	(P, PC, E, EG, GC)	A3	RQCB0391	SERVICENTER LIST	(P)
P2	RPN0825	CUSHION	(EB, GN)	A3	SQX9131	SERVICENTER LIST	(PC)
P3	RPQ0164	ACCESSORIES PAD		A3	RQCB0169	SERVICENTER LIST	(E, EB, EG, GC, GN)
P4	XZB50X65A02	PROTECTION COVER (THIS UNIT)		A4	SJA172	AC POWER SUPPLY CORD	(P, PC) Δ (SF)
P5	XZB25X34C03Y	PROTECTION BAG (F.B., ACC.)		A4	RJA0019-2K	AC POWER SUPPLY CORD	(E, EG, GC) Δ (SF)
P6	RPH0032	MIRROR SHEET	(EB, GN)	A4	VJA0733	AC POWER SUPPLY CORD	(EB) Δ (SF)
		ACCESSORIES		A4	RJA0036-K	AC POWER SUPPLY CORD	(GN) Δ (SF)
				A5	SJP2249-3	STEREO CONNECTION CABLE	
A1	RQT2238-P	INSTRUCTION MANUAL	(P)	A6	SJP5213-2	POWER PLUG ADAPTOR	(GC) Δ
A1	RFKSSIR575PC	INSTRUCTION MANUAL ASS'Y	(PC)	A7	RQLA0134	CAUTION LABEL (VOL. SELECTOR)	(GC)

PACKAGING



<CUSHION A, B, C, D Part No.: RPN0824 (P, PC, E, EG, GC), RPN0825 (EB, GN)>

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